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These annotated bibliographies contain a total of 449 references of professional information in agricultural education published annually. References are organized under headings of: (1) Agricultural Mechanics, (2) Animal Science, (3) Conservation and Forestry, (4) Curriculum Development and Course of Study, (5) Farm Business Management and Marketing, (6) Guidance and Occupational Opportunities, (7) Occupational Experience Programs, (8) Off-Farm Agricultural Occupations and Business, (9) Ornamental Horticulture, (10) Plant Science and Soils, (11) Supervision and Teacher Education, (12) Teaching Aids and Materials, and (13) Miscellaneous. The annotation for each document states the availability and price. (DM)

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A DESCRIPTION AND SOURCE LISTING
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1967-68

AMERICAN VOCATIONAL ASSOCIATION

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A DESCRIPTION AND SOURCE LISTING
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PROFESSIONAL INFORMATION
IN
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AGRICULTURAL MECHANICS

101. AGRICULTURAL MACHINERY SERVICE AND REPAIR. J. B. Payne et al, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1967. Approximately 300 page resource unit for students in agricultural machinery pre-employment laboratory programs. Supply limited. Price $3.75.

102. AGRICULTURAL EQUIPMENT AND MECHANICS CURRICULUM GUIDE. State staff and teacher committee, Ohio Agricultural Education Curriculum Materials Service, 1967. An outline of a two year program to prepare 11th and 12th grade students for entry level employment in the basic areas of agricultural mechanics and equipment including mechanics, parts department, sales, machinery set-up, and management. Price $1.00.

103. A MANUAL FOR PLANNING AND CONDUCTING AN AGRICULTURAL MECHANICS FAIR. Teacher Education Series Vol. 8 #1, Charles Lebo, Department of Agricultural Education, The Pennsylvania State University, University Park Pennsylvania 16802, 1967.

104. ARC WELDING 186. John D. Todd, Department of Agricultural Education, 308 Morgan Hall, University of Tennessee, Knoxville, Tennessee 37916, April 1967. An instructional aid to be used in teaching arc welding of mild steel. The aid is complete with a breakdown of the job into problems or factors, suggested procedure for teaching and technical subject material for each problem. The aid was prepared for teachers only.

105. BASIC ELECTRONIC COMPONENTS: RESISTORS, 157-1, ADDITIONAL MANUALS, 157-2. Nelson L. Smith III, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Approximate date of release January 1, 1968. Color filmstrip and manual explains the types of resistors and what they do. Extraordinary interest and clarity is gained through the use of an actual resistor as an "actor." Price Manual and Filmstrip 157-1 $4.50, extra Manuals $0.50 each.

106. CONTROLS FOR AUTOMATION IN AGRICULTURE, TEACHER UNIT PLAN. Robert T. Benson, Thomas A. Hoerner, Frank Anthony, Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802, 1967. Price $1.00.

107. CONTROLS FOR AUTOMATION IN AGRICULTURE, STUDENT HANDBOOK. Teacher Education Series Vol. 8 #2, 1967. For authors and source see 106. Price $1.25.

108. CONTROLS FOR AUTOMATION IN AGRICULTURE, STUDENT LABORATORY MANUAL. 1967. For authors and source see 106. Price $0.50.

109. ENGINE COMPRESSION AND CYLINDER LEAKAGE TESTING. VAS 3025, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. September 1967. This 16-page subject-matter unit discusses the principles of four-cycle engine operation and the effects of cylinder leakage. It describes in detail how to make compression tests and cylinder leakage tests and how to interpret the results. Price $0.20. Postpaid when payment accompanies order.

110. HARDSURFACING WITH THE ARC WELDER #201. John D. Todd, Department of Agricultural Education, 308 Morgan Hall, University of Tennessee, Knoxville, Tennessee 37916. April 1967. An instructional aid to be used in teaching hardsurfacing with an arc welder. The aid is complete with a breakdown of the job into problem or factors, suggested procedure for teaching and technical subject material for each problem. Both methods of hardsurfacing, electrode and powder, are included. The aid was prepared for teacher use only.

111. HOW ELECTRICITY PERFORMS. D. E. Wiant, Department of Agricultural Engineering, Michigan State University, March 1967. Available from Raymond M. Clark, MATVA, College of Education, Agricultural Education Service, 340 Erickson Hall, East Lansing, Michigan 48823. How Electricity Performs consists of a series of six color slide sets and accompanying script as follows:

PUTTING ELECTRONS TO WORK. A set of 19 colored slides and accompaning script illustrates some of the basic principles of electricity. An examination of the atom and its electrons; the effects of opposite and like electric charges; electron movement; the electric current, and electromotive force. Amperes, volts, and ohms and the instruments for measuring them are discussed. Price $7.00.

MECHANICAL GENERATION OF ELECTRIC POWER. A set of 34 slides, mostly colored, and accompanying script illustrates how an alternating electric current is generated. Two fundamental relations between electricity and magnetism are illustrated and shown to be the basic principles of the mechanical generator. A conductor, shaped as a loop, is revolved in the magnetic field of a "mock-up" generator to show, step by step, how an alternating voltage is produced. Cycle, frequency, and phase are explained, the relation between generated voltage and generated current is shown, and the production of a three-phase voltage is illustrated. Price $12.00.

WHY A VOLTAGE TRANSFORMER WORKS. A set of 17 colored slides and accompanying script shows existance of a magnetic field about a current carrying conductor; utilizing the magnetic field about a conductor to make a strong magnetic field; the solemoid; design of the transformer; magnetic field in the transformer; induced voltage in secondary windings, and the relation between volts in the primary and volts in the secondary windings. Price $6.00.

SINGLE-PHASE INDUCTION MOTORS: COMMON TYPES, AND THEIR DIFFERENCES. A set of 27 slides, mostly colored, and accompanying script to illustrate the parts of the induction motor; why it is called an induction motor; the four common single-phase induction motors, and the reason for their differences. "Inside" views illustrate how the four kinds of motors start and run, and how the direction of rotation is reversed. The dual voltage motor is also discussed. Price $10.00.

CONNECTING AND REVERSING COMMON ELECTRIC MOTORS. A set of 30 colored slides and accompanying script illustrating the simplicity of the single phase induction run motor; what makes them run; and auxilliary starting devices. How to use motor nameplate information to construct schematic drawings of motor circuits is illustrated along with methods of tracing motor circuits; connecting the motor to the line, and reversing them. Price $11.00.

WHY OUR ELECTRIC WIRING IS SAFE. A non-technical set of 31 colored slides and accompanying script illustrating how electric wiring systems, from the transformer to the outlets in a building, are designed to be safe. Grounding is illustrated as well as why and how proper grounding eliminates hazards. $11.00.

Make all checks and/or purchase orders out to Raymond M. Clark, MATVA.

112. JOB BREAKDOWNS FOR FARM MECHANICS INSTRUCTION, AGRICULTURE I. Joe Richardson, Drawer 3V, University Park, New Mexico 88001. 1967. Price $0.50.

113. LAYING OUT AND CUTTING COMMON RAFTERS #221. John D. Todd, Department of Agricultural Education, 308 Morgan Hall, University of Tennessee, Knoxville, Tennessee 37916. March 1967. An instructional aid to be used in teaching laying out and cutting common rafters. The aid is complete with a breakdown of the job into problems or factors, suggested procedure for teaching, technical subject material, and diagrams of structure parts and procedures in laying out rafters. Instructions for laying out rafters using four different methods are included. The aid was prepared for teacher use only.

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114. MECHANICS RESOURCE UNITS AND STUDENT WORKBOOKS. W. Forrest Bear, Bulletin Room, AEAE, Institute of Agriculture, University of Minnesota, St. Paul, Minnesota 55101. 1966-1967. A series of teacher resource units and student workbooks in the following areas:

- Small Engine Service, Repair and Maintenance
- Corn Planter Service, Repair and Maintenance
- Combine Service, Repair and Maintenance
- Concrete Workbook for Quality Concrete
- Hydraulic System for the Farm

Write to the above address for Minnesota Teaching Aids Order Form AEAE-3.

115. MICROMETERS AND RELATED MEASURING TOOLS. VAS 3023, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. May 1967. This 8-page subject-matter unit describes the various types of micrometers and tells how to use and read them correctly. Related measuring tools such as small-hole gauges and telescoping gauges are also covered. Special suggestions on the care of these precision measuring tools are offered. Price $0.10. Postpaid when payment accompanies order.

116. OXYACETYLENE WELDING: MAKING SIMPLE WELDS, 154-1. Additional Manuals 154-2. Ray Allen and Glenn Seeber, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Approximate release time January 1, 1968. A color filmstrip and manual that shows the student how to make flat position welds. Operator safety is emphasized throughout the filmstrip. Price color filmstrip and manual 154-1 $4.50, additional manuals $0.50.

117. PROBLEM AND ANSWER SHEETS FOR LEARNING ENGINE MAINTENANCE PRINCIPLES. Benton K. Bristol, Department of Agriculture, Illinois State University, Normal, Illinois 61761. October 1967. Fifteen-page multilith with separate problem and answer sheets on the following subjects: Battery hydrometer reading, distributor to spark plug hookup, spark plug and engine condition, and compression test. Single copies free as long as supply lasts.

118. PROJECT PLANS. W. Forrest Bear, Bulletin Room, AEAE, Institute of Agriculture, University of Minnesota, St. Paul, Minnesota 55101. 1966-1967. One page project plans bound in pads of 25 copies of the same plan selling for $0.60 per pad with the exception of the Eyebolt and Chisel plan which consists of 4 pages with the pad of 25 selling for $1.75. The project plans are as follows:

166	Eyebolt and Chisel	2066	Copper Tubing Exercise
266	Drawbar Hitch Pin	2166	Pipe Exercise
366	Welded "C" Clamp	2266	Funnel
466	Center Punch	2366	Garden Trowel
566	Drawbar Hitch Plate	2466	Adj. Gas Welding Stand
666	Feed Scoop	167	Clean and Service Electric Motors
766	Cow Trainer	267	Clean A Paint Brush
866	Tool Sharpening Gauge	367	Post Driver
966	Sharpen Twist Drill	467	Drill Bit, Bolt and Washer Gauge
1066	Concrete Float	567	Winthrop Hitch Pin

1166	Chipping Hammer
1266	Dust Pan
1366	Concrete Hog Trough
1466	Sawhorse
1566	Nail and Tool Carrier
1666	Shop Stand
1766	Extension Cord Stand (M)
1866	Extension Cord Stand (W))
1966	Hose Hanger
667	Adj. Welding Stool
767	Adj. Safety Jack
867	Storage of Small Engines
967	Sharpening Wood Chisels
1067	Sharpening Plane Iron
1167	Shoe Scraper, Concrete Base
1267	Baled Hay Hook
1367	Bag Cart

Write to the above address for Minnesota Teaching Aids Order Form AEAE-1.

119. SAFETY UNITS. W. Forrest Bear, Bulletin Room, AEAE, Institute of Agriculture, University of Minnesota, St. Paul Minnesota 55101. 1966-1967. Shop safety units bound in pads of 25 copies of the same unit. The units and prices are as follows:

Drill Press	$1.75
Arc Welding	1.75
Oxyacetylene Welding	1.75
Jointer	1.50
Fire Extinguisher	1.50
Portable and Stationary Grinders	1.50
Fuel Storage	1.50
Soldering and Sheet Metal	1.50
Gas Forge	1.50
Electrical	1.50
General Shop	2.30
Hand Tools	2.70
Saws	4.00

Write to the above address for Minnesota Teaching Aids Order Form AEAE-2.

120. SMALL GASOLINE ENGINES, STUDENT HANDBOOK. Teacher Education Series Vol. 7 #1. Lewis C. Ayers, Gene M. Love, and Thomas A. Hoerner, Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802. 1966. A resource unit for high school students. Price $1.00.

121. THE IGNITION SYSTEM - TESTING AND ANALYZING TEST RESULTS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. September 1967. This 28-page subject-matter publication descrives the components of a battery ignition system and discusses the function, testing and servicing of each part. Detailed information is given on how to use various types of engine ignition diagnostic equipment and how to interpret the results. Price $0.35 postpaid when payment accompanies order.

122. THE SPARK PLUG - OPERATION, SELECTION, AND MAINTENANCE. VAS 3026, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. September 1967. This 20-page subject-matter unit tells how a spark plug is constructed and what factors affect its proper operation. It also discusses the selection of plugs, what can be learned by examining spark plugs from an engine and how to service plugs. Price $0.25 postpaid when payment accompanies order.

123. THE STORAGE BATTERY. VAS 3024, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. September 1967. This 32-page subject-matter unit describes the parts of a battery and how they function. Battery selection, installation, service, testing, charging, and safety precautions are included. Price $0.40 postpaid when payment accompanies order.

124. TRANSPARENCIES IN AGRICULTURAL MECHANICS. A. K. Jensen, Agricultural Education Department, Clemson University, Clemson, South Carolina 29631. 1967. Transparencies, 108, are on 12 subjects in Agricultural Mechanics. The number of transparencies on each subject vary from three to fifteen. Subjects included are: (1) Transmissions (2) Bearings (3) Flexible Couplings (4) Power Take-off (5) Belts and Pulleys (6) Friction Clutches (7) Differential (8) Chains (9) Gears (10) Steel Square (11) Fasteners for Hollow Walls and (12) Steel Tape Rule. One copy available per state at no cost.

125. USE OF THE LEVEL, READING THE ROD, 155-1, Additional Manuals 155-2. James P. Webster, Jr., Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Approximate date of release January 1, 1968. Color filmstrip and manual that explains how to read the rod after the instrument has been set up and sighted in. Price color filmstrip and manual $4.50 additional manuals $0.50.

ANIMAL SCIENCE

126. A GUIDE FOR VOCATIONAL AGRICULTURE STUDENTS WITH OCCUPATIONAL OBJECTIVES IN DAIRY FARMING. Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70804. November 1967.

127. ANIMAL SCIENCE VISUALS. Vocational Agricultural Service, 434 Mumford Hall, Urbana, Illinois 61801. July 1967. These are 8 1/2" x 11" instructional illustrations printed on heavy paper. They are for making transparencies for overhead projection, for use with an opaque projector, or for direct viewing. Each set is contained in a manila pocket folder with the title of the series stamped on the flap. Available sets are:

Beef Visuals -	(Set of 5)	Price $0.25
Dairy Visuals -	(Set of 5)	Price $0.25
Meat Visuals -	(Set of 19)	Price $0.60
Sheep Visuals -	(Set of 7)	Price $0.30
Swine Visuals -	(Set of 11)	Price $0.40

Prices quoted postpaid when payment accompanies order.

128. BASIC LIVESTOCK AND POULTRY MANAGEMENT. Volume XLVIII, No. 4. A. O. Duncan, College of Education, Baldwin Hall, University of Georgia, Athens, Georgia 30601. January 1967. Includes information appropriate for developing understandings of basic livestock and poultry management at the Agriculture II level. It is not the purpose of the publication to provide recommended practices of production and marketing nor the experimental data that would lead to production and marketing practices. This task would be reserved for the Agriculture III level. No copies available.

129. CURRICULUM GUIDE - ANIMAL SCIENCE. Earl Carpenter, State Staff, Teacher Education Staff, and Vocational Agriculture Teachers, State Department of Education, Vocational Agriculture Section, Jefferson City, Missouri 65101. August 1967. A complete teacher's guide for the first year in Vocational Agriculture. Transparencies and other aids are included. Units, sub units, and lessons including agricultural mechanics, careers, leadership, and occupational experience. Not for sale at present. Copies have been sent to head state supervisors and teacher educators.

130. DAIRY FARM WORKER (COURSE OF STUDY). Vocational Agriculture Teachers and Center Staff, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. October 1967. Approximately 300 pate course of study for students placed for occupational experience on a dairy farm. Contains information sheets, assignment sheets, tests and answers. Developed in cooperation with a state advisory committee of dairy farmers representing the Texas Association of Young Farmers. Requires certain additional references. For individualized instruction. Price $4.00, supply limited.

131. JUDGING AND GRADING POULTRY AND EGGS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. October 1967. This 36-page booklet explains the poultry judging rings used in the Illinois and national contests and procedures to use in preparing for each. Samples of cards used in each contest is shown at the end of each chapter. Price $0.35 postpaid when payment accompanies order.

132. LIVESTOCK BREEDING, Agdex 400/30. Roger Roediger, Ohio Vocational Agriculture Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. 1967. A 200 page student reference designed to assist students in gaining an understanding of important concepts in livestock breeding. Problems and exercises are used to provide opportunities for students to apply the concepts in realistic situations. The book is illustrated. Concepts general to all livestock breeding problems are covered as well as specific reference to dairy, beef, swine, and sheep problems. Available from the Ohio Service at the price indicated. Recommended use is one per student. Price $2.00.

133. NEVADA SHEEP PRODUCTION. Robert M. Hartman, Agricultural Education Department, University of Nevada, Reno, Nevada 89500. September 1967. Five units on teaching sheep. Mainly for Nevada but would be of value to other states. Free as long as supply lasts.

134. POULTRY FARM WORKER - COMMERCIAL EGG FLOCK (COURSE OF STUDY). Vocational Agriculture Teachers, Center Staff, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. October 1967. Approximately 350 page course of study for students placed for occupational experience on a poultry farm, commercial egg flock. Contains information sheets, assignment sheets, tests and answers. Developed in cooperation with a state advisory committee representing the Texas Poultry Federation. Requires certain additional references. For individualized instruction. Supply limited, price $4.50.

135. POULTRY SELECTION AND JUDGING, 159-1, Additional Manuals 159-2. Leo Sankoff, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. January 1, 1968. Two color filmstrips and a two-part manual to prepare the student for contests, poultry shows, and managing commercial flocks. Price color filmstrip and manual $9.50, additional manuals $1.00.

CURRICULUM DEVELOPMENT

136. AGRICULTURAL PRODUCTION CURRICULUM GUIDE. State Staff and Teachers of Vocational Agriculture, Ohio Agricultural Education Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. 1967. A production agriculture curriculum guide covering the areas of supervised occupational experience, plant science, animal science, agricultural mechanics, farm business management and leadership training. Price $2.00. OE neg

137. AGRICULTURE RELATED OCCUPATIONAL INFORMATION FOUND IN SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION. L. R. Hilterbrand, Agricultural Education, Purdue University, Lafayette, Indiana 47906. September 1966. This booklet contains a listing of studies found in summaries of studies with notation keyed to a selected bibliography. Free.

138. COURSE ORGANIZATION FOR SELECTED AREAS IN ADULT EDUCATION. L. R. Hilterbrand, Editoral Author, Agricultural Education, Purdue University, Lafayette, Indiana 47906. June 1967. This booklet encompasses course and lesson outlines for various subject matter areas. A few lesson plans are included to indicate how they may be used with the outlines. Free. OE neg

139. GUIDE TO COURSE CONSTRUCTION FOR VOCATIONAL AGRICULTURE IN COLORADO HIGH SCHOOLS. Teacher Education and Supervisory Staffs. Available July 1, 1968 from State Board for Community Colleges and Occupational Education, State Services Building, Denver, Colorado 80203.

140. INTRODUCTION TO AGRICULTURAL SCIENCE - A CURRICULUM GUIDE, SECTION A: AGRICULTURAL SCIENCE AND SECTION B: AGRICULTURAL MECHANICS. C. O. Loreen, September 1967. Agricultural Education, Washington State University, Pullman, Washington 99163. A curriculum guide for Agriculture I. Single Copies free to State Supervisors and Teacher Educators.

141. ORGANIZING AND CONDUCTING YOUNG FARMER PROGRAMS IN NEW YORK STATE. H. R. Cushman, October 1967. Mailing Room, Research Park, Building 7, Cornell University, Ithaca, New York 14850. Single copies free, additional copies $0.30 each. A comprehensive review of the practices and procedures for organizing and conducting young farmer programs in New York State. Areas covered include: administrative arrangements, planning instructional programs, conducting individual and group instruction, the young farmer association, and evaluation.

142. SECOND REPORT OF THE DEVELOPMENT AND DEMONSTRATION OF A COORDINATED AND INTEGRATED PROGRAM OF OCCUPATIONAL INFORMATION, SELECTION AND PREPARATION IN A SECONDARY SCHOOL. George A. Robinson and R. J. Agan, November 1, 1965 - May 31, 1966. Available from Dr. R. J. Agan, 103 Holton Hall, College of Education Kansas State University, Manhattan, Kansas 66502.

143. THE DEVELOPMENT AND DEMONSTRATION OF A COORINATED AND INTEGRATED PROGRAM OF OCCUPATIONAL INFORMATION, SELECTION, AND PREPARATION IN A SECONDARY SCHOOL. R. J. Agan and Bill G. Garber, October 1967. Available from Dr. R. J. Agan, 103 Holton Hall, College of Education, Kansas State University, Manhattan, Kansas 66502.

144. VOCATIONAL AGRICULTURE IN TRANSITION FOR OCCUPATIONAL EDUCATION. Dr. Leo L. Knute and Graduate Students, 1967. Price $1.50. Agricultural Education Department, Montana State University, Bozeman, Montana 59715. Deals with curriculum change and planning in vocational agriculture. Two parts: Evaluation of Vocational Agriculture and Establishing Cooperative Occupational Experience programs.

FARM BUSINESS, MANAGEMENT, MARKETING

145. AGRICULTURAL MANAGEMENT. H. E. Rodeberg and Graduate Students, October 1967. Price $1.00. Agricultural Education Department, Montana State University, Bozeman, Montana 59715. Consists of 10 units on management especially for a one semester course in vocational agriculture.

146. A GUIDE TO ON-FARM INSTRUCTION IN FARM MANAGEMENT. 1967. Price $2.50. Department of Agricultural Engineering and Agricultural Education, Institute of Agriculture, St. Paul, Minnesota 55101.

147. BASIC PROCEDURES FOR DETERMINING THE BLEND PRICE FOR MILK. 1967. Alfred Chapin, Jr. and Lyle L. Wicks, Single copies free. Instructional Materials Service, 210 Stone Hall, Cornell University, Ithaca, New York 14850. While this resource unit is directed toward procedures used in establishing the farm price for milk in the New York-New Jersey milkshed, the basic principles apply to other marketing areas. The publication defines terms and illustrates by example, how the blend price is determined, based on class utilization. Transportation and butterfat differentials are taken into consideration. A transparency master for preparing an overhead projectual entitled "Calculation of Blend Price" is included.

148. EDUCATION REGARDING CREDIT FOR AGRICULTURAL PRODUCTION, REPORT NO. 2, SURVEY OF ILLINOIS TEACHERS. May 1966. Lloyd J. Phipps, Gerald R. Fuller, and Earl B. Russell. Price $0.50. Agricultural Education Division, University of Illinois, 357 Education Building, Urbana, Illinois 61801. This report contains information about the high school and adult education programs regarding credit. Units of instruction and areas of content are identified. Conclusions and recommendations are presented for consideration. A limited number of copies are available.

149. FARM AND RANCH BUSINESS ANALYSIS. January 1966. Agricultural Education Staff and Graduate Students. Price $2.00. Agricultural Education Department, Montana State University, Bozeman, Montana 59715. Three year program for adult farmers: 1st year - Keeping records, 2nd year - Analysis of enterprise records, 3rd year - Develop Farm and Ranch Operators Management Practices.

150. FARM MANAGEMENT ANALYSIS. June 1967. James Albracht. Free. Dr. James Albracht, 103 Holton Hall, College of Education, Kansas State University, Manhattan, Kansas 66502. Resource unit for teachers of vocational agriculture.

151. KEEPING RECORDS. January 1968. Billy J. Vice. Single copy free only to State Supervisors and Head Teacher Educators. Instructional Materials Laboratory, Division of Vocational Education, College of Education, Room 151, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506.

152. MAKING MANAGEMENT DECISIONS USING FARM RECORDS, Teacher Education Series Vol. 8 #4. 1967. S. M. Curtis and W. M. Fredd. Price not decided. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802.

153. ORGANIZING THE FARM BUSINESS, Vol. XLVIII, No. 1. October 1966. A. O. Duncan. Department of Agricultural Education, University of Georgia, Athens, Georgia 30601. Contains information that is suitable for gaining a background understanding of farm organization. It includes principles and procedures for farm organization. However, it does not contain sufficient data for organizing the farm business for an individual farm. No copies available.

154. PLAN THE LIVESTOCK SYSTEM AND ESTIMATE FERTILITY COSTS (Slidefilm 372). December 1967. $3.05 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This is a color, single-frame slidefilm of 48 frames. It is related to material in VAS Units 2012a and 2014a. After the livestock system is planned, fertility costs are estimated by the use of a short-cut method.

155. PRINCIPLES OF AGRICULTURAL FINANCE. September 1967. Lyle L. Wicks. Single copies free. The Farm Credit Banks, 310 State Street, Springfield, Massachusetts 01101. The packet of teaching materials includes an 8 1/2 x 11 64-page student manual, a supplement entitled "Suggestions for Teaching" and 20 masters for preparing overhead projectuals. Methods of financing, sources of credit, computing credit costs, credit documents, using commercial banking services and financing cooperatives are among the topics discussed in the manual. An exercise entitled "Financing an Agricultural Enterprise" provides opportunity for an intensive study of loan-negotiating procedures. Designed for use with 11th and 12th grade high school classes and young farmer groups.

156. PROFIT-MAXIMIZING PRINCIPLES, Agdex 820. 1967. Richard Barker, Editor. Price $2.00. Ohio Agricultural Education Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. Six Profit-Maximizing Principles are included in this teacher's guide. Illustrations are presented for each of the six principles taught. Available from the Ohio Service. One per teacher recommended.

157. PROBLEM AND KEY FOR THE ILLINOIS FARM RECORD BOOKS. October 1967. Pack of 10 problems, $0.60; Key, single copy, $0.50. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. The 8-page problem and key of 32 double pages were prepared to be used especially with the Illinois Farm Record Book. However, the key can be used as an illustration of a completed farm record, along with the calculation of various analysis measures. It can be used with high school students or adult farmers. Postpaid when payment accompanies order.

158. STANDARDS FOR MEASURES OF EFFICIENCY. 1967. Pack of 10 $0. 60. Postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This 8-page item is made available each year to serve as a comparison for records of adult farmers and for enterprises in students' farming programs. Standards for physical measures are taken from the preceding year's results from farmers enrolled in the Illinois Farm Bureau Farm Management Service. Current prices and costs are then applied to get income estimates.

159. SUMMARIZING, ANALYZING, AND USING RECORDS. December 1967. Billy J. Vice. Single copy free only to State Supervisors and Head Teacher Educators. Instructional Materials Laboratory, Division of Vocational Education, College of Education, Room 151, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506. This teaching unit is one of two units relating to the record book, "Vocational Agriculture Record Book for Production Agriculture," (available from French-Bray Publishing Company) that was developed in 1965 by the National Record Book Committee (Development Project - 4C money). Unit would be more suitable to teachers that have students keeping this particular record book.

160. TAKING THE FARM INVENTORY. June 1967. F. K. Tom, Donald Burgett, and J. A. Scanlon. Single copy free, not available in quantity. Division of Agricultural Education, Department of Education, Cornell University, Ithaca, New York 14850. A programed unit of instruction for use with the Cornell Farm Inventory Book. The programed unit covers the complete farm inventory, plus an examination at the conclusion of the material.

161. USE OF THE "INCOME POSSIBILITIES" FORM. Revised, July 1967. Pack of 10 $0.60. Postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This 8-page item illustrates filled-in copies of the "Income Possibilities" form made available at the University of Illinois. It shows complete farm budgets under 3 different plans of organizing a farm business for a specific farm situation. Net income differences under the 3 plans amount to about $2,300 for the same acreage and same type of soil, along with similar amounts of labor.

GUIDANCE AND OCCUPATIONAL OPPORTUNITIES

162. A GUIDE FOR TEACHING FFA. 1967. Joe Richardson. Price $0.50. University of New Mexico, Drawer 3V, University Park, New Mexico 88001. Guide and maters for transparencies.

163. CHAPTER OFFICIERS HANDBOOK. 1967. Joe Richardson. Price $0.50. University of New Mexico, Drawer 3V, University Park, New Mexico 88001.

164. FFA LEADERSHIP TRAINING MANUAL. Winter 1967-1968. Frank J. Wolff. Single copies free to state staff members. Bureau of Agricultural Education, State Education Department, Albany, New York 12224. Includes suggestions for training chapter officers for their specialized responsibilities as well as broader chapter activities.

165. PROMOTING YOUR FFA CHAPTER. July 1967. Juergensen and Easter. Single copies free to agriculture teachers and FFA Chapters. Department of Agricultural Education, University of California, Davis, California 95616. Ideas useful to advisors and FFA officers in getting participation and membership.

166. STATE OFFICERS HANDBOOK. 1967. Joe Richardson. Price $0.50. University of New Mexico, Drawer 3V, University Park, New Mexico 88001.

167. THE FFA ORGANIZATION - QUESTIONS AND ANSWERS. 1967. Joe Richardson. Price $0.25. University of New Mexico, Drawer 3V, University Park, New Mexico 88001.

OFF-FARM AGRICULTURAL OCCUPATIONS AND BUSINESS

168. A GUIDE FOR TEACHING CAREERS IN AGRICULTURE. 1967. Joe Richardson. Price $0.50. University of New Mexico, Drawer #V, University Park, New Mexico 88001.

169. A GUIDE TO SURVEYING YOUR COMMUNITY FOR YOUTH EMPLOYMENT OPPORTUNITIES IN AGRICULTURAL BUSINESSES AND SERVICES. 1967. John F. Thompson. Free. Department of Agricultural and Extension Education, The University of Wisconsin, 208 Agricultural Hall, Madison, Wisconsin 53706. This guide is intended to assist the local teacher as he attempts to gather information concerning youth employment opportunities in agricultural businesses and services. It contains possible objectives for a study, an interview form, an interview guide, and eight formats which may be used for reporting data.

170. A SURVEY OF ACTIVITIES, DUTIES, AREAS OF KNOWLEDGE AND/OR SKILLS NEEDED BY A SAMPLE OF WORKERS IN MIAMI COUNTY KANSAS. 1966. R. J. Agan and George A. Robinson. Dr. R. J. Agan, 103 Holton Hall, College of Education, Kansas State University, Manhattan, Kansas 66502.

171. AGRICULTURAL FACTS AND CAREER OPPORTUNITIES FOR HIGH SCHOOL GRADUATES IN SOUTH CAROLINA. November 1966. J. A. Hash. Copies available for Supervisors and Teacher Educators. Agricultural Education Department, Clemson University, Clemson, South Carolina 29631. Eight pages of information used by teachers and others in recruiting high school students for Agriculture and Agricultural Education.

172. A HANDBOOK FOR PROSPECTIVE STUDENTS IN VOCATIONAL AGRICULTURE IN LOUISIANA. August 1966. Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70804.

173. AGRICULTURAL OCCUPATIONS INTEREST SCALE. 1967. W. H. Hamilton. Single copies free. Agricultural Education, Purdue University, Lafayette, Indiana 47906. A scale to compare student interest in five specialty fields: Ornamental horticulture, agricultural business, agricultural mechanization, conservation, and production agriculture. Can be scored by hand and percentile charts available.

174. COURSE OF STUDY "COMMONALITIES AND EXPERIENCES IN OCCUPATIONS" GENERAL RELATED VOCATIONAL INFORMATION FOR EXPLORATORY EXPERIENCES IN OCCUPATIONS. August 1966. Dr. R. J. Agan, 103 Holton Hall, College of Education, Kansas State University, Manhattan, Kansas 66502.

175. PLANNING FOR A CAREER IN AGRICULTURE, STUDENT RESOURCE UNIT. Teacher Education Series Vol. 8 #2. 1967. Norman K. Hoover, Glenn Z. Stevens, and Charles W. Smith. Price $1.00. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802.

176. PLANNING FOR A CAREER IN AGRICULTURE, TEACHER UNIT PLAN. Teacher Education Series Vol. 8 #3. 1967. Norman K. Hoover, Glen Z. Stevens, and Charles W. Smith. Price not decided yet. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802.

177. WHY STUDENTS SELECT AGRICULTURE AS A MAJOR COURSE OF STUDY. 1967. Cecil H. Johnson and Kinsler B. Mark. Free. Agricultural Education Department, Clemson University, Clemson, South Carolina 29631. This study is an attempt to determine some of the factors that influence the selection of a major in the school of agriculture at Clemson.

178. YOUR FUTURE AS A DRAFTSMAN, 156-1, Additional Manuals, 156-2. January 1, 1968. J. M. McRobbie. Price: Filmstrip and Manual, 156-1 $7.50; Manual only 156-2 $0.50. Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Color filmstrip, taped narration, and manual that answers questions about drafting as a career. Explains working conditions, educational requirements, and responsibilities.

PLANT SCIENCE AND SOILS

179. AN ADAPTATION OF THE USDA SOIL CONSERVATION SERVICE TECHNICAL GUIDE, Teacher Education Series Vol. 8 #1. 1967. G. Z. Stevens and S. M. Curtis. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802. Price $1.25

180. AN INTRODUCTION TO FORESTRY. August 1967. L. R. Hilterbrand, Balt Publishers, Lafayette, Indiana 47904. Price $4.00. An introduction to forest management. This book places emphasis on the steps necessary for forest growth, harvesting and protection, primarily for the midwest area. It is written so the average high school can read and understand it. The book is designed primarily for high school and junior college.

181. A SUGGESTED TRAINING GUIDE FOR SWEET POTATO PRODUCTION IN LOUISIANA. September 1967. Department of Agricultural Education, Louisiana State University, Baton Rouge, Louisiana 70804.

182. CURRICULUM GUIDE - PLANT SCIENCE. August 1967. Earl Carpenter and others. State Department of Education, Vocational Agriculture Section, Jefferson City, Missouri 65101. Copies available only to Head Supervisors and Teacher Educators. A complete teachers guide and teaching aids for the second year of vocational agriculture including mechanics, careers, leadership, and supervised occupational records.

183. FRUIT AND VEGETABLE IDENTIFICATION SLIDE SET WITH SYALLABUS. October 1967. Price $20.00 postpaid. University of Minnesota, Alpha Tau Alpha c/o Martin McMillion, Department of Agricultural Education, St. Paul, Minnesota 55101. Sixty color slides of fruits and vegetables, one title slide and a syallabus dexcribing the characteristics of each of the fruits and vegetables. Many uncommon vegetables are included in this high quality slide set developed by the University of Minnesota Horticulture Department and the Audio Visual Aids Department.

184. KNOW YOUR LAND. 1967. David Hinson. Price $6.75. Ohio Vocational Agriculture Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. A series of 44 color slides and script. The slides are based upon the Ohio land judging score card. Available from the Ohio Service at the price indicated.

185. PLANT SCIENCE INFORMATION FOUND IN SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION. November 1966. L. R. Hilterbrand. Free. Agricultural Education, Purdue University, Lafayette, Indiana 47906. This booklet contains information compiled from the summaries of studies in selected areas of plant science keyed to a bibliography.

186. PLANT IDENTIFICATION VISUALS. December 1967. Price $0.70. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This is a set of 22 visuals on leaf shapes and various characteristics used for plant identification. These are 8 1/2 x 11 inch instructional illustrations for use in making overhead projection transparencies, for direct use with an opaque projector, or for use as charts. They are included in a pocket folder for filing.

187. PRODUCING HIGH CORN YIELDS, VAS 4039a. May 1967. Price $0.15 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This 12-page subject-matter unit discusses problems that confront corn producers such as planting time, depth, row width, planting, fertilization, insecticides, and herbicide application. It is illustrated with photographs, graphs, and tables.

188. PRODUCING HYBRID SEED CORN (Slidefilm 730-67). December 1967. Price $3.45 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This is a color, single-frame slidefilm of 61 frames. It discusses various facts about hybrid seed corn and how it is produced.

189. RECOGNIZING HERBICIDE INJURY (Slidefilm 798) December 1967. Price $3.45 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This is a color, single-frame slidefilm of 61 frames. This slidefilm illustrates how plants appear that have geen damaged by improper use of herbicides.

190. SOIL FERTILITY AND FERTILIZERS (RESOURCE UNIT). October 1967. H. E. Rodeberg and Graduate Students. Price $1.50. Agricultural Education Department, Montana State University, Bozeman, Montana 59715. Ten units with objectives, plans, and information on subject for each unit.

191. TEACHING UNIT IN SOIL FORMATION AND CLASSIFICATION. 1967. Price $2.00. Departments of Agricultural Engineering and Agricultural Education, Institute of Agriculture, St. Paul, Minnesota 55101.

SUPERVISION AND TEACHER EDUCATION

192. ATTITUDINAL CHANGES TOWARD ADULT EDUCATION DURING STUDENT TEACHING. Research Series No. 3. 1967. Price $0.25. T. R. Miller, Agricultural Education Department, North Carolina State University, Raleigh, North Carolina 27607. An analysis of six years of records on attitudes of student teachers toward adult education before and after student teaching.

193. STUDENT TEACHING MANUAL. 1967. C. O. Loreen, Single copies available to Head Teacher Educators. Agricultural Education, Washington State University, Pullman, Washington 99163. A manual to guide student teaching activities.

194. TEACHER PERCEPTION OF PRINCIPALS' VIEWS ON VOCATIONAL EDUCATION, Research Series No. 1. 1966. T. R. Miller. Price $0.25. Agricultural Education Department, North Carolina State University, Raleigh, North Carolina 27607. A study of what teachers of Agriculture perceives to be the viewpoints of their principals toward supervised practice, vocational agriculture, vocational education in general.

TEACHING AIDS AND MATERIALS

195. AUDIO VISUALS FOR AGRICULTURAL SCIENCE. July 1967. Kennedy - Juergensen. Single copies to Supervisors and Teacher Educators. Department of Agricultural Education, University of California, Davis, California 95616.

196. EFFECTS OF COOPERATIVE OVERHEAD PROJECTION MASTER DEVELOPMENT. November 1966. Joel Magisos and Stanford Sleeth. Agricultural Education, Wilson 6, Washington State University, Pullman, Washington 99163. Single copies available by request

197. TRANSPARENCY MASTERS FOR AGRICULTURE (SUPPLEMENT). May 1967. Gilbert A. Long, Joel H. Magisos, and Stanford Sleeth. Agricultural Education, Wilson 6, Washington State University, Pullman, Washington 99163. Single copies available by request

EXPERIENCE PROGRAMS

198. GUIDELINES AND PROCEDURES: DIRECTED WORK EXPERIENCE PROGRAMS. September 1967. H. R. Cushman, C. W. Hill, and John K. Miller. Single copies free. Division of Agricultural Education, Department of Education, Cornell University, Ithaca, New York 14850. A suggested list of guidelines and procedures for teachers and administrators involved in providing directed work experiences for students in agricultural programs.

199. KEEPING RECORDS OF THE SUPERVISED FARMING PROGRAM, VAS 2041. December 1967. Price $0.35 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This is a 28-page subject -matter unit which tells how to keep records in the supervised farming program record book used in Illinois. In the introduction, the relationship between this program and the supervised agricultural experience program is pointed out. The records illustrated are for production enterprises. The principles should also apply to records in other states.

ORNAMENTAL HORTICULTURE

200. A PROBLEM IN GREENHOUSE MANAGEMENT, EVALUATING TWO ALTERNATIVES FOR EXPANDING INCOME. June 1967. Willaim H. Kelly, Alfred Chapin, Jr. and Lyle L. Wicks. Single copy free. Instructional Materials Service, 210 Stone Hall, Cornell University, Ithaca, New York 14850. The publication is designed to meet a need for experience in estimating capital outlay, expenses and income related to the financial structure of a greenhouse operation. The problem describes a practical situation which the student analyzes as a basis for reaching a decision. A teacher and student copy is included.

201. A GUIDE FOR PLANNING AND ORGANIZING PROGRAMS IN ORNAMENTAL HORTICULTURE. Winter 1967-1968. Frank Wolff. Single copies free to State staff members. Contains suggestions to aid teachers and administrators in planning ornamental horticulture programs. Major headings include (1) introduction (2) purpose of guide (3) grade level (4) time allotments (5) course sequences (6) credits (7) suggested supply lists (8) suggested equipment lists (9) space requirements (10) work experience program suggestions (11) cost estimates (12) instructional and resource materials lists.

202. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN GARDENING AND GROUNDSKEEPING. September 1967. Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70804.

203. CREATIVE APPROACHES TO TEACHING ORNAMENTAL HORTICULTURE. 1967. Benton K. Bristol. Single copies free while supply lasts. Department of Agriculture, Illinois State University, Normal, Illinois 61761. Five-page mimeograph discussion guide and supporting materials utilized at a half-day short course for agricultural occupations instructors.

204. FERTILIZING AND WATERING SHADE AND ORNAMENTAL TREES, VAS 5003. December 1967. Price $0.15 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This 12-page subject-matter unit discusses basic information on fertilizing and watering trees. The major section titles are--(1) Why Should I Fertilize Trees?, (2) What is a Fertilizer?, (3) Should I Fertilize?, (4) When Should I Fertilize and With What?, (5) How Should I Fertilize?, and (6) Should I Water Trees? It is illustrated with photographs and drawings.

205. FERTILIZING BEDDING PLANTS IN A GREENHOUSE - #270. September 1967. John D. Todd. Department of Agricultural Education, 308 Morgan Hall, University of Tennessee, Knoxville, Tennessee 37916. An instructional aid to be used in teaching fertilizing bedding plants in a greenhouse. The aid is complete with a breakdown of the job into factors, suggested procedure for teaching and technical subject material for each problem. The aid was prepared for teacher use only.

206. FLOWERS AND GREENHOUSE - SOURCE MATERIALS FOR TEACHING HIGH SCHOOL STUDENTS. June 1967. Paul E. Hemp and John F. Bobbitt. Price $0.35 postpaid. Agricultural Education Disvision, University of Illinois, 357 Education Building, Urbana, Illinois 61801. Suggested problems, learning activities, and references for problem areas in soils, growing flowers, greenhouse construction, and plant regulators.

207. FLOWERS TO WEAR. September 1967. Jeanne Tucker. Three filmstrips and manual 151-9, $39.50. Extra manuals 151-2, $1.00. Vocational Educational Productions, California State Polytechnic College, San Luis Obispo, California 93401. Three filmstrips, taped narration, and three-part manual showing step-by-step procedures in making creative corsages. The filmstrips advance from simple techniques to the most advanced.

208. FOLIAGE PLANT IDENTIFICATION AND ARRANGEMENT IN PLANTERS. Resource Unit. May 1967. John F. Thompson and Donald M. Jaworski. Free. Department of Agricultural and Extension Education, The University of Wisconsin, 208 Agricultural Hall, Madison, Wisconsin 53706. This resource unit contains objectives, typical problems and questions of students, a large variety of suggested activities, suggested list of foilage ornamentals, key concepts for evaluation, references, and a guide to use when studying foilage plant characteristics.

209. GREENHOUSE MANAGEMENT. Set of 108 2x2 slides. October 1967. Will Mashburn. Price $16.20. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. 108 2x2 slides with script showing construction features and operational practices for greenhouses. Designed for preemployment laboratory training in horticultural occupations. Small supply stocked. May be necessary to await duplication.

210. GREENHOUSES AND RELATED STRUCTURES, Agdex 200/731. 1967. Richard Henley. Price $9.50. Ohio Vocational Agriculture Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. A series of 62 color slides and script. The objective is to familiarize students with the various kinds of greenhouse structures and facilities. The slide series is divided into sections and can be viewed at different times. The sections are as follows: greenhouses, use of greenhouses, greenhouse shapes, covering materials, greenhouse heating, ventilating and cooling, and related structures.

211. GUIDELINES FOR EVALUATING SECONDARY VOCATIONAL PROGRAMS IN ORNAMENTAL HORTICULTURE. 1967. Frank Wolff and Alan G. Robertson. Single copies free to State staff members. Bureau of Research in Occupational Education, State Education Department, Albany, New York 12224. Contains suggestions for organizing programs, evaluating instruction and utilizing the results of evaluation.

212. HORTICULTURE SERIES OF MODULES AND LESSONS WITH REFERENCES AND AUDIOVISUAL MATERIALS. TURF, NURSERY, GREENHOUSE, LANDSCAPE, AND INTRODUCTION TO VOCATIONAL HORTICULTURE. 1968. Edited by Avery Gray and John Strouse. Price not determined. State Supervisor of Vocational Agriculture Education, 600 Old Trails Building, 309 West Washington Street, Indianapolis, Indiana 46204.

213. HORTICULTURE OCCUPATIONS RESOURCE MATERIAL - #102. October 1967. Price $1.00. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Approximately 70 pages in two offset publications designed as laboratory exercises for students enrolled in preemployment laboratory training in horticultural occupations; both included in above price.

214. HORTICULTURE SLIDE SETS. 1968. Project Dimension Staff. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania 16802. Horticultural Slide Sets available:

A. Designing with Flowers and Decorative Materials, 63 slides @ $10.71
B. Exploring Turfgrass Occupations, 30 slides @ $5.10
C. Commonly Used Trees, Shrubs, Groundcovers, and Vines, 52 slides @ $8.84
D. Turfgrass Identification, 30 slides @ $5.10
E. Types of Turf, 17 slides @ $2.89
F. Weed Identification, 37 slides @ $6.29

215. INSECT PESTS OF ILLINOIS TREES AND SHRUBS, VAS 5005. December 1967. Price $0.45 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This 36-page subject-matter unit discusses facts about, descriptions of, and control measures for insects that attack trees and shrubs. It contains 54 photographs showing insects or their damage.

216. LANDSCAPE PLANT IDENTIFICATION. May 1967. John F. Thompson and Donald M. Jaworski. Free. Department of Agricultural and Extension Education, The University of Wisconsin, 208 Agricultural Hall, Madison, Wisconsin 53706. This resource unit contains many suggestions for teachers as they teach landscape plant identification. It includes a suggested list of ornamental plants that could be studied, a list of ornamental terms, suggested activities, forms for gathering data about ornamental plants, key concepts for evaluation, references, and four mats which may be used to provide copies of ornamental plant characteristics to each student.

217. ORNAMENTAL PLANT IDENTIFICATION: Set of 84 2x2 slides with script. October 1967. Price $12.60. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Set of 84 2x2 slides of ornamental plants with script. For training students in identification. Designed for preemployment laboratory training in horticultural occupations. Small supply stocked. Duplication may be necessary after receipt of order.

218. PLANTS FOR GREENHOUSES: Set of 40 2x2 slides. October 1967. Will Mashburn. Price $6.00. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Set of 2x2 slides, (40), of greenhouse plants. For identification. Small supply stocked. Duplication may be necessary after receipt of order.

219. PRUNING ORNAMENTAL SHRUBS. January 1968. Lloyd Petroelje. Filmstrip and Manual (153-1) Price $4.50, Manual only (153-2) Price $0.50. Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. A filmstrip and manual that shows how to improve the health of plants and establish a pleasing composition of plants through pruning.

220. PRUNING SHADE TREES, VAS 5004. December 1967. Price $0.10 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61820. This 8-page subject-matter unit discusses such questions as -- (1) Why Do Shade Trees Need Pruning?, (2) When Should I Prune?, (3) What Equipment Do I Need?, and (4) What Pruning Operations Can I Do? It is illustrated with photographs and drawings.

221. SELECTING TREES FOR HOME PLANTING, VAS 5001. December 1967. Price $0.50. postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801. This 40-page subject-matter unit discusses factors you should consider before and when buying trees. It contains 67 pictures of trees that you may consider.

222. SEXUAL AND ASEXUAL PROPOGATION OF PLANTS, Set of 40 2x2 slides with script. October 1967. Price $6.00. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Set of 2x2 slides (40) with script on propogation in the greenhouse. Small supply stocked. Orders may be delayed for duplication.

223. TRANSPLANTING SHADE TREES, VAS 5002. December 1967. Price $0.15 postpaid when payment accompanies order. Vocational Agriculture Service, 434 Mumford Hall, Urbana Illinois 61801. This 12-page subject-matter unit is designed to help solve problems in transplanting shade trees. The major section titles are -- (1) How Should I Prepare a Tree for Moving?, (2) How Should I Plant a Tree?, and (3) How Should I Protect the Tree? It is illustrated with photographs and drawings.

224. VOCATIONAL HORTICULTURE CURRICULUM GUIDE. 1967. State Staff and Horticulture Teachers. Price $1.00. Ohio Vocational Agriculture Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. A curriculum guide developed to assist teachers and local schools in designing a suitable curriculum that will provide students with the necessary skills and understandings for securing employment.

OFF-FARM AGRICULTURAL OCCUPATIONS AND BUSINESS

225. AGRICULTURAL BUSINESS COURSE OF STUDY. Winter 1967-1968. Frank Wolff and Joe P. Bail. Single copy free to State staff members. Bureau of Agricultural Education, State Education Department, Albany, New York 12224. Suggestions for developing a course of study in Agricultural Business for grades 11 and 12.

226. AGRICULTURAL SUPPLIES BUSINESS AND SERVICE CURRICULUM GUIDE. 1967. State Staff and Teachers. Price $1.00. Ohio Vocational Agriculture Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. A curriculum guide to assist teachers and local schools in planning and conducting a comprehensive instructional program to train individuals for off-farm agricultural occupations.

227. AGRICULTURAL SUPPLIES BUSINESS AND SERVICE, Agdex 835. 1967. Harry Plank. Price $12.45 for single copies, write for quantity prices. Ohio Vocational Agriculture Curriculum Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210. A series of 15 student lesson units for the agricultural supplies business and service related classes. The materials include an Instructor's Manual which accompanies the series of units. A series of 15 Student Manuals (a complete series is recommended for each student in the related class) and a Teacher's Guide for each of the 15 Student Manuals. The materials are designed to provide the student with basic information needed in all of the agricultural businesses. Provision is made for the student to work out practical exercises in the student units to provide him with experiences in conjunction with his occupational experience program.

228. BASIC SOCIAL AND EDUCATIONAL COMPETENCIES ESSENTIAL FOR INITIAL AND CONTINUED EMPLOYMENT IN AGRICULTURAL OCCUPATIONS. August 1966. Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70804.

229. COURSE IN AGRICULTURAL OCCUPATIONS - SALES AND SERVICE. January 1967. Harold Binkley. Free while supply lasts. Division of Vocational Education, College of Education, University of Kentucky, Lexington, Kentucky 40506. Course includes the following units of instruction: Opportunities in Agricultural Occupations, Orientation of the Training Program, Organization of Distributive Businesses, Agricultural Mathematics, Human Relations and Personality Traits, Store Skills, Salesmanship and Selling, Feeds, Seeds, Fertilizers, Agricultural Chemicals and Evaluation.

230. CURRICULUM IN FOOD HANDLING AND DISTRIBUTION - A GUIDE FOR EXPERIMENTATION IN HIGH SCHOOL AND POST HIGH SCHOOL VOCATIONAL TRAINING. May 1967. Philip G. Stiles, Howard Martin, and Richard Lalley. Free. The Connecticut State Department of Education, Division of Vocational Education, Hartford, Connecticut 06115. Includes suggested course of study, sample units, lists of resources, and plans for classroom and laboratory arrangements.

231. FORTY FEED SALES COMPETENCIES AND WHERE THE COMPETENCIES COULD BE TAUGHT. June 1967. James Albracht. Free. Dr. James Albracht, 103 Holton Hall, College of Education, Kansas State University, Manhattan, Kansas 66502. A list of vocational competencies which are essential for the performance of the sales function in the feed industry and the educational location where they could be taught. Free while supply lasts.

232. MEAT PROCESSING PLANT EMPLOYEE (COURSE OF STUDY). 1967. Price $4.75. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Approximately 325 page course of study for students placed for occupational experience in a meat processing plant. Contains information sheets, assignment sheets, answers to assignment sheets, tests and answers. Developed in cooperation with a state advisory committee representing the industry. Requires certain additional references. For individualized instruction. Supply limited.

233. MILK PROCESSING PLANT EMPLOYEE (COURSE OF STUDY). 1967. Price $4.50. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Approximately 300 page course of study for students placed for occupational experience in a dairy products processing plant. Contains information sheets, assignment sheets, answers for assignment sheets, tests and answers. Developed in cooperation with a state advisory committee representing the industry. Requires certain additional references. For individualized instruction. Supply limited.

234. OBJECTIVES FOR DEVELOPING AGRICULTURAL RELATED CAREERS IN OCCUPATIONS. 1966. L. R. Hilterbrand. Free. Agricultural Education, Purdue University, Lafayette, Indiana 47906. Information found in this bulletin was compiled to stress areas of concern in agricultural careers. The objectives with their key areas of concentration are supplemented with a selected bibliography.

235. POTENTIAL FOR FOOD HANDLING AND DISTRIBUTION TRAINING IN CONNECTICUT. 1967. Philip G. Stiles, W. Howard Martin, and Richard Lalley. Free. The Connecticut State Department of Education, Division of Vocational Education, Hartford, Connecticut 06115. Summarizes findings, ranks instructional areas and presents outline for curriculum in food handling and distribution.

236. POULTRY HATCHERY EMPLOYEE (COURSE OF STUDY). 1967. Price $2.00. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Approximately 150 page course of study for students placed for occupational experience in a poultry hatchery. Contains information sheets, assignment sheets, tests and answers. Developed in cooperation with a state advisory committee representing the industry and named by Texas Poultry Federation. Requires certain additional references. For individualized instruction. Supply limited.

237. POULTRY PROCESSING PLANT EMPLOYEE (COURSE OF STUDY). 1967. Price $2.50. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Approximately 200 page course of study for students placed for occupational experience in a poultry processing plant. Contains information sheets, assignment sheets, tests and answers. Developed in cooperation with representatives of the industry named by Texas Poultry Federation. Requires certain additional references. For individualized instruction. Supply limited.

238. TABLE FOR FOUR. 1968. Pauline Shaffer. Slide series and manual (158-1) $6.50. Manual only (158-2) $0.50. Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Color slides and manual that gives the waitress directions for setting tables and serving food in good restaurants.

239. VETERINARY ASSISTANT (COURSE OF STUDY). 1967. Page, Fay and Center Staff. Price $5.50. Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Approximately 400 page course of study for students placed for occupational experience with a veterinarian. Contains assignment sheets, information sheets, tests, answers to assignment sheets and tests. Developed with the cooperation of a state advisory committee of veterinarians named by the Veterinary Medical Association of Texas. Requires certain additional publications as references. For individualized instruction. Supply limited.

MISCELLANEOUS

240. APPLIED DESIGN PRINCIPLES. January 1968. Roger S. Bailey and Bernice B. Loughran. Manual and filmstrips (152-1) $9.50, additional manuals (152-2) $1.00. Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Two filmstrips and a two-part manual explaining how good design can be built into an object. The first part explains how design principles are incorporated into initial planning. Part two, Designing for Quality Production, shows how the final product reflects design principles.

241. A STUDY TO COMPARE IQ SCORES OF SELECTED SOUTH CAROLINA FRESHMEN ENROLLED IN VOCATIONAL AGRICULTURE WITH THOSE NOT ENROLLED. 1967. George H. Durham, Jr. One copy free. Agricultural Education Department, Clemson University, Clemson, South Carolina 29501. The purpose of this study was to determine if students enrolled in Vocational Agriculture have the same average mental ability as those not enrolled in Vocational Agriculture.

242. COURSE OF STUDY INFORMATION FOUND IN SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION. November 1966. L. R. Hilterbrand. Free. Agricultural Education, Purdue University, Lafayette, Indiana 47906. This bulletin presents areas of concentration in course of study selected from the summary of studies keyed to a selected bibliography.

243. GROUND SQUIRREL CONTROL. 1968. James Klaustermeyer and Vern McGlothlen. Filmstrip and manual (160-1) $9.50, additional manuals (160-2) $1.00. Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401. Two color filmstrips and a two-part manual that explains life cycle and control methods for common ground squirrel.

244. TEACHING THE IMPORTANCE OF AGRICULTURE WITH AGRICULTURAL FACTS. 1967. F. E. Kirkley. One copy per state. Agricultural Education Department, Clemson University, Clemson, South Carolina 29501. Contains factual information needed to show the true picture of Agriculture primarily on State and County level. It also includes some national agricultural data.

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OF
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IN
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AGRICULTURAL MECHANICS

101. AGRICULTURAL MECHANICS SHOPS IN MODERN SECONDARY SCHOOLS. Benton K. Bristol, Department of Agriculture, Illinois State University, Normal, Illinois 61761; June 1966; Single copies free as long as present supply lasts. 32-page multilith booklet. Major headings include: General Principles of Planning, Examples of Agricultural Mechanics Shops, Space Saving Shop Ideas, Storage Ideas and Related Information, Exhaust Systems, Paint Spray Booths, and Appendix.

102. BALL AND ROLLER BEARINGS. American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601; 1966; $.50 (postpaid), 10 or more $.45 each (postpaid). Deals with bearings commonly found on farm equipment. Discusses their capabilities and limitations for use with thrust, radial or combination loads and the effects of misalignment. Contains 32 pages, 80 illustrations, 1 color. Size 8½" x 11".

103. CONTROLS FOR AUTOMATION IN AGRICULTURE. Robert T. Benson, T. A. Hoerner, and Frank Anthony, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; September 1966; In a field-testing stage of development but available to interested teachers. A resource unit for high school students on automatic controls used in agricultural mechanics.

104. HOW TO BUILD A TANDEM TRAILER. Curtis R. Weston and Wayne Minnick, Teaching Aids Fund for Vocational Agriculture, University of Missouri, 122 Waters Hall, Columbia, Missouri 65201; February 1966; $.30 each. A 13-page bulletin describing how to build a tandem trailer. Illustrated by pictures and drawings with a bill of materials.

105. HOW TO BUILD A TRACTOR SCRAPER BLADE. Curtis R. Weston, Jesse Clonts, William Northcutt, and Harold Pitts, Teaching Aids Fund for Vocational Agriculture, University of Missouri, 122 Waters Hall, Columbia, Missouri 65201; January 1966; $.25 each. A 14-page bulletin describing how to build a scraper blade. Illustrated by pictures and drawings with a bill of materials.

106. LAYING OUT AND MARKING A STAIR STRINGER. George W. Wiegers and John D. Todd, Agricultural Education Department, 308 Morgan Hall, University of Tennessee, Knoxville, Tennessee 37916. June 1966; No charge. Copies available for teacher educators and supervisors. A plan for teaching containing objectives, situation, introduction, problems, procedure, references, solutions, drawings, and evaluation.

107. MILK HOUSE SCORE CARD. Frank Anthony, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; 1965; Single copies available free. A score card for the use of high school students in evaluating milk house facilities. Includes recommendations.

108. THE ON-FARM SERVICE CENTER IN MECHANIZED FARMING (Bulletin 728). Frank Anthony, G. A. Kimmel, and B. K. Bristol, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; December 1965; Single copies available free. Models of On-Farm Service Center layouts are described and suitable tools and equipment are suggested.

109. PLANS. Curtis R. Weston, Teaching Aids Fund for Vocational Agriculture, University of Missouri, 122 Waters Hall, Columbia, Missouri 65201; Each plan, $1.00 per pad of 25. Project construction - blueprint - (one page) - with line drawings, construction procedure and bill of material. Printed so each student may have a personal copy. Individual plans (in pads of 25) available as follows:

Plan No. 5 - Tractor Hoists
Plan No. 102 - Open-top Pipe Sawhorse
Plan No. 103 - Pipe Sawhorse
Plan No. 104 - Bag Cart
Plan No. 105 - Tool Box
Plan No. 401 - Metal Gate
Plan No. 501 - Bench & Picnic Table
Plan No. 502 - Laundry Cart
Plan No. 503 - Lawn Chair
Plan No. 504 - Picture Frame
Plan No. 700 - Hose Hanger
Plan No. 701 - Feed Scoop
Plan No. 702 - Wire Bender & Splicer
Plan No. 801 - Post Driver
Plan No. 851 - Flowerpot
Plan No. 852 - Open-top Wooden Sawhorse

110. THE PLANTER--SELECTION, ADJUSTMENT, MAINTENANCE & USE (VAS 3021). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $.54 postpaid (write for quantity prices). This 40-page subject-matter unit contains information on selecting, operating, adjusting, using, and maintaining a planter. Practical applications include a planter information sheet and laboratory exercises and demonstrations.

111. SAFETY IN THE AGRICULTURAL MECHANICS SHOP (VAS 3022). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $.30 postpaid (write for quantity prices). This unit of 24 pages includes general rules for shop safety, hand tools, electricity, machinery repair and sheet metal work. There are additional sections of safety instructions for operating portable electric saws, circular saws, reciprocating saws, band saws, jointers, routers and planers, drill presses and portable drills, grinders, hack saws, arc welders, oxy-acetylene welders, spot welders, and gas forges.

112. SELECTING AND MAINTAINING FIELD MOWERS. J. Howard Turner, George W. Smith, and Jimmy Wren, American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601; 1966; $3.50 (postpaid), 10 or more $3.15 each (postpaid). Part One tells how the size and type of mower is affected by: cropping practices, crop characteristics, field conditions, tonnage required, harvesting-and-processing methods and costs. Part Two gives detailed descriptions of the steps involved in maintaining cutter bar and rotary cutting mechanisms and drives. The principles of operation are discussed for each component part, and what happens if you neglect them. Contains 128 pages, 300 illustrations, four colors. Size $8\frac{1}{2}$" x 11".

113. SELECTION, OPERATION, AND MAINTENANCE OF ELECTRIC MOTORS. T. A. Hoerner, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; 1966; Available to interested teachers. A teacher-student guide for studying electric motors.

114. A SHOP MADE HYDRAULIC PRESS. Harvey R. Wallace, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843; July 1966; A press designed to stand the pressure of a 40 ton jack.

115. SMALL GASOLINE ENGINES (Teacher Education Series, Volume 7, Number 1). L. C. Ayers, G. M. Love, and T. A. Hoerner, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; November 1966; Presently in a field-testing stage of development but available to interested teachers. A resource unit for high school students.

116. SMALL ENGINE VISUALS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $2.50 postpaid. This is a series of 98 instructional illustrations on small engine principles, maintenance and repair. They are for making transparencies for overhead projection, for use with an opaque projector, or for direct viewing. This set of visuals is contained in a manila pocket folder for filing.

117. SUGGESTED COURSE OF STUDY FOR GENERAL AGRICULTURAL MECHANICS I and II. F. W. Nicholas and A. J. Miller, Department of Agricultural Education, Virginia State College, Petersburg, Virginia 23300; November 1966; Limited number of copies - free. Major headings include: Purpose, Areas, Skills to be Developed, Supplies and Materials, and Bibliography.

118. THE TRACTOR ELECTRICAL SYSTEM. American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601; 1966; $1.75 (postpaid), 10 or more $1.58 each (postpaid). A practical presentation of electricity as it applies to the tractor ignition system, the starter, the generator and the storage battery. Alternators and transistorized regulators are included in the discussion. Contains 64 pages, 105 illustrations, three colors. Size $8\frac{1}{2}$" x 11".

119. TRACTOR HYDRAULICS. American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601; 1966; $1.40 (postpaid), 10 or more $1.26 each (postraid). Explains the simple scientific principles involved in a hydraulic system. Discusses the principles as applied to tractor hydraulics, the merits of different types of hydraulic pumps and valves, the types of hydraulic cylinders and how they work. Contains 48 pages, 57 illustrations, three colors. Size $8\frac{1}{2}$" x 11".

120. TRACTOR TRANSMISSIONS. American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601; 1966; $1.20 (postpaid), 10 or more $1.08 each (postpaid). A discussion of the different types of units used in tractor transmissions, how they work to secure different speeds and drawbar pull, and how gears can be shifted on-the-go. A non-technical publication for those interested in a general knowledge of transmissions. Contains 32 pages, 38 illustrations, three colors, size $8\frac{1}{2}$" x 11".

121. THE TWO CYCLE ENGINE (VAS 3020). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $.25 postpaid (write for quantity prices). This 20-page unit describes the operation of the two-cycle engine, carburetion, ignition and a section on locating engine troubles.

122. UNITS OF INSTRUCTION FOR TEACHING SMALL ENGINE MAINTENANCE. H. P. Addison and Bobby G. Perry, Agricultural Education Section, Department of Education, Purdue University, Lafayette, Indiana 47907; December 1966; Single copy free.

123. USING AND MAINTAINING THE TILTING ARBOR SAW. U. E. Wendorff, M. G. McCreight and Donovan Benson, Department of Information, College of Agriculture and Home Economics, University of Nebraska, Lincoln, Nebraska 68503; July 1966; 10 copies or less $.25 each, 11-50 copies $.20 each, 50+ copies $.15 each (postpaid). Major headings include: Cross Cutting, Ripping, Ploughing, Dadoing, Rabbeting, Adjusting and Maintaining, Safety Precautions. 22 illustrations.

124. USING POWER LAWN MOWERS SAFELY (Slidefilm 498). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; April 1966; $3.49 postpaid. This is a color, single frame slidefilm of 76 frames. It contains suggestions to follow when selecting a safe mower. It contains recommendations for proper dress and for inspection of the lawn. The film lists safety precautions to follow for starting the mower and mowing the lawn. There are additional safety suggestions for riding mowers and electric powered mowers.

125. USING THE LEVEL TO STAKE OUT A BUILDING SITE (Slidefilm 439). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; April 1966; $.77 postpaid. This is a black and white, single frame slidefilm of 25 frames. It contains suggestions for setting up the level over a specific point. It shows how to stake out a building with respect to another existing building and how to erect batterboards at the corners of the new building.

126. WALL-MOUNTED WELDING TABLE. Darrell R. Schnitker, University of Idaho, Department of Agricultural Education, Moscow, Idaho 83843; December 1965; A welding table designed to fold against the wall and out of the way.

127. WHAT IS YOUR CASE (CONVENIENCE, ADEQUACY, SAFETY, ECONOMY) WITH ELECTRICITY? Frank Anthony, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; June 1966; Single copies available free. A score card for high school students in evaluating the extent and efficient uses of electricity for the farm and home.

ANIMAL SCIENCE

128. BEEF PRODUCTION (Unit). Billy J. Vice, Instructional Materials Laboratory, Division of Vocational Education, College of Education, University of Kentucky, Lexington, Kentucky 40508; January 1967; Free - single copy available only to state supervisors and head teacher educators.

129. BETTER BEEF BUSINESS (AF7). W. R. Bingham, Department of Agricultural Education, College of Education, University of Kentucky, Lexington, Kentucky 40508; December 1966; One copy free to state supervisors and teacher educators, $1.00 per copy to teachers. An adult farmer course in beef production consisting of 100 pages and including research and technical data.

130. CARING FOR THE BROOD MARE AND FOAL (VAS 1041). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $.12 postpaid (write for quantity prices). This 8-page subject-matter unit discusses the feeding and care of the brood mare before and after foaling and the feeding, care, and training of the foal.

131. DEMONSTRATIONS IN DAIRY (Professional Series Bulletin No. 54). Clark, Miller, Aldrich, Murray, and Hillman, Bureau of Research and Publications, Erickson Hall, Michigan State University, East Lansing, Michigan 48823; 1962; $1.00. A Professional Series Bulletin containing 52 pages that offer suggestions to meet the needs of teachers of vocational agriculture and biological science who are interested in instructional materials dealing with specific subject matter. Demonstrations included in the bulletin are as follows: (1) housing of dairy cattle, (2) disease control and sanitizing milking equipment, (3) feeding for economical milk production, and (4) operation of equipment. This bulletin will lend itself well for assignments to students who are preparing and presenting class demonstrations.

132. GESTATION-LACTATION PERIOD OF SOWS AND GILTS (Slides and Script). R. F. Wilson, Ohio Vocational Agriculture Instructional Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210; 1966; $3.75. A series of 23 color slides composed for the most part of art work which provide information for the feeding and management of sows and gilts during gestation-lactation.

133. THE POULTRY INDUSTRY (No. 135). Faculty of Poultry Industry Department; California State Polytechnic College, Vocational Education Productions, San Luis Obispo, California 93401; March 1966; $5.00. Full-color filmstrip with accompanying manual, describing career opportunities in the poultry industry for both men and women. Also is useful in showing the broad technological changes taking place in all of agriculture.

134. PRODUCING PORK FOR PROFIT (AF6). W. R. Bingham, Department of Agricultural Education, College of Education, University of Kentucky, Lexington, Kentucky 40508; December 1964; One copy free to state supervisors and teacher educators as long as supply lasts. $1.00 per copy to individual teachers. An adult farmer course consisting of 86 pages and 12 separate lessons and including considerable research data and technical information.

135. REFERENCE MATERIAL FOR A PROPOSED COURSE OF STUDY ON REPRODUCTION OF FARM ANIMALS. Denny Woodruff, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843; September 1966; Designed for use on the high school level.

136. SELECTING, FEEDING, AND CARING FOR LIGHT HORSES (VAS 1040). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $.20 postpaid (write for quantity prices). This 16-page subject matter unit explains and illustrates the breeds and discusses selecting, feeding, and equipment needed for light horses on the farm.

137. SOURCE UNITS FOR THE SWINE ENTERPRISE (Ag. Ed. Source Units, No.2). Raymond M. Clark and Graydon L. Blank, Bureau of Educational Research Services, College of Education, Michigan State University, East Lansing, Michigan 48823; August 1964; An Agricultural Source Unit Bulletin with 65 pages that deals with 8 specific problems of the swine enterprise, as follows: (1) operations related to the swine enterprise, (2) care of sows, gilts and baby pigs at farrowing time, (3) feeding pigs from weaning to market, (4) controlling diseases and parasites of swine, (5) feeding bred gilts and sows, (6) swine housing and equipment, (7) marketing slaughter hogs, and (8) production records. Each of the problem area units lists the principles of the unit to be understood by students teaching objectives, typical questions of interest to the student, suggested activities for students and teachers and a list of appropriate references. The bulletin is organized on the enterprise organization for the units and also the off-farm occupation chapter.

138. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN LIVESTOCK AND POULTRY. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

139. VETERINARY SCIENCE CLASS. A. E. McChesney, Agricultural Education Department, Montana State University, Bozeman, Montana 59715; 1966; $1.00. 8½" x 11" Nine lessons for adult groups; best taught by a local veterinarian; averaged 100 per class.

CURRICULUM DEVELOPMENT

140. AGRICULTURAL PRODUCTION AND MANAGEMENT--A THIRD YEAR CURRICULUM FOR VOCATIONAL AGRICULTURE. Arthur K. Jensen, Department of Agricultural Education, Clemson University, Clemson, South Carolina 29631; 1966; Single copies free while supply lasts. A resource unit outline for a typical production agricultural course for third-year students of vocational agriculture.

141. GUIDELINES FOR VOCATIONAL AGRICULTURE. Agricultural Education Division, Maryland State Department of Education, 301 W. Preston Street, Baltimore, Maryland 21201; September 1966; Limited copies available. A 37-page bulletin describing the organization and content for programs in vocational agriculture. It contains suggestions for lesson organization and the problem solving approach to teaching.

142. PILOT PROGRAMS IN AGRICULTURAL EDUCATION. Paul Hemp, Lloyd J. Phipps, et. al., Agricultural Education Division, University of Illinois, 357 Education Building, Urbana, Illinois 61801; June 1966; $.75 postpaid. Final report of Illinois Agricultural Education Curriculum Research Project. 58 pp.

FARM BUSINESS, MANAGEMENT, MARKETING

143. AGRICULTURAL BUSINESS MANAGEMENT--PRINCIPLES THAT AFFECT PRODUCTION (VAS 2040). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; February 1967; $.40 postpaid (write for quantity prices. This 32-page subject-matter unit points out that agricultural business management includes four segments--production management, marketing management, financial management, and personnel management. It illustrates the use of basic economic principles applied to farming and to other agricultural businesses. The principles should be helpful in making decisions about which resources and how much to use and also about which products to turn out. Fixed and variable costs are also illustrated.

144. CHOOSING THE LIVESTOCK SYSTEM (VAS 2014a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; May 1966; $.12 postpaid (write for quantity prices). This 8-page subject-matter unit is a revision of 'Planning the Livestock System" (VAS 2014) printed in 1958. The revision discusses the amount of income to expect by adding livestock, by adding livestock with the necessary forage, and by adding swine in confinement.

145. EDUCATION REGARDING CREDIT FOR AGRICULTURAL PRODUCTION; PARTIAL LISTING OF REFERENCES AND AIDS. Gerald R. Fuller, Agricultural Education Division, University of Illinois, 357 Education Building, Urbana, Illinois 61801; May 1966; $.50 postpaid. A partial listing of educational materials which teachers consider effective for teaching high school students and adults. The source and cost of each item listed are noted.

146. FARM AND RANCH BUSINESS ANALYSIS. Leo L. Knuti, H. E. Rodeberg, and Agricultural Teachers, Agricultural Education Department, Montana State University, Bozeman, Montana 59715; 1965; $2.00. 8½" x 11" plastic binding; 108 pp. Three year course of study in farm record keeping and related subjects - based on Minnesota Program.

147. FARM BUSINESS PLANNING AND ANALYSIS FILING SYSTEM (Agdex 818). Homer Brown, Vocational Agriculture Instructional Materials Service, Room 201, 2020 Fyffe Road, Columbus, Ohio 43210; 1966; $1.00. The purpose of the Farm Business Planning and Filing System is to aid farmers in filing and finding farm receipts, farm expenses, record summary analysis materials, and planning and organization materials quickly and easily. It is designed to be used in conjunction with farm record keeping. A book of instructions and gummed labels compose the kit. The filing system is limited to classifying and organizing information needed for recording in the farmer's account book.

148. FIELD ARRANGEMENT PRINCIPLES (VAS 2004a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; May 1966; $.12 postpaid (write for quantity prices). This 8-page subject-matter unit is a revision of "Principles of Field Arrangement" (VAS 2004) printed in 1957. The revision discusses shapes and sizes of fields, number of fields to plan, and field layout for efficient farming.

149. FITTING LIVESTOCK TO THE FARM (VAS 2012a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; May 1966; $.16 postpaid (write for quantity prices). This 12-page subject-matter unit is a revision of "Selecting the Livestock Enterprises" (VAS 2012) printed in 1958. The revision discusses the reasons for keeping livestock on the farm, resources needed for different livestock enterprises, and the profit that can be expected from each.

150. GUIDING BOYS TO KEEP RECORDS (Unit). Billy J. Vice, Instructional Materials Laboratory, Division of Vocational Education, College of Education, University of Kentucky, Lexington, Kentucky 40508; February 1967; Free - single copy available only to state supervisors and head teacher educators.

151. SOURCE UNIT--AGRICULTURAL COOPERATIVES. Paul Hemp and Norman Ehresman, Agricultural Education Division, University of Illinois, 357 Education Building, Urbana, Illinois 61801; September 1966; $.75 postpaid. A Teacher's Guide for Instructional Planning. 64 pp.

152. TEACHING FARM BUSINESS ANALYSIS IN PROGRAMS OF VOCATIONAL AGRICULTURE FOR YOUNG FARMERS IN KANSAS COMMUNITIES. Teachers of Kansas, Agricultural Division, State Board for Vocational Education, 11th Floor, State Office Building, Topeka, Kansas 66612; October 1965; No charge - limited to head state supervisors and head teacher trainers. A revised report of an attempt to present some guidelines in establishing and operating a Farm Business Analysis program as part of the Vocational Agriculture program in Kansas.

GUIDANCE AND OCCUPATIONAL OPPORTUNITIES

153. BASIC SOCIAL AND EDUCATIONAL COMPETENCIES ESSENTIAL FOR INITIAL AND CONTINUED EMPLOYMENT IN AGRICULTURAL OCCUPATIONS (Vo. Ag. Ed. No. 13). Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; August 1966; One copy free upon request as long as the supply lasts. Contents divided into four units and is generally designed for use in the first and second year of the vocational agriculture program.

154. CAREERS IN AGRICULTURE. Robert V. Kerwood, Agricultural Education Department, West Virginia University, Morgantown, West Virginia 26506; June 1966; One copy free. This publication deals with the opportunities in agriculture. It should help young people to analyze the situation and arrive at a decision or choice of an agricultural occupation. It treats several careers that might be undertaken by giving trends, duties, qualifications and preparation.

155. A GUIDE FOR VOCATIONAL AGRICULTURE STUDENTS WITH OCCUPATIONAL OBJECTIVES IN DAIRY FARMING (Vo. Ag. Ed. No. 15). Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; November 1966; One copy free upon request as long as supply lasts.

156. HANDBOOK FOR PROSPECTIVE STUDENTS IN VOCATIONAL AGRICULTURE IN LOUISIANA (Vo. Ag. Ed. No. 12). Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; August 1966; One copy free upon request as long as the supply lasts. A handbook for use with beginning vocational agriculture students to familiarize them with the program and the occupational opportunities in vocational agriculture.

157. LEADERSHIP EDUCATION, INDIVIDUAL AND GROUP. Leo L. Knuti and Agricultural Teachers, Agricultural Education Department, Montana State University, Bozeman, Montana 59715; 1966; $2.00. Corporate and Individual Leadership - $8\frac{1}{2}$ x 11 - plastic binding list of references, 115 pp.

158. A PATH TO YOUR FUTURE. M. C. Knox, Agricultural Education Division, State Board for Vocational Education, P.O. Box 248, Olympia, Washington 98501; April 1966; Single copy free. A counseling and recruiting folder, 4 pages.

159. OPPORTUNITIES FOR YOU IN AGRICULTURAL EDUCATION. American Association of Teacher Educators in Agriculture, Agricultural Education Department, Montana State University, Bozeman, Montana 59715; Reprint 1966: Up to 500 - 5¢; 500-1,000 - 4½¢; 1,000 or more - 4¢. 4" x 6" tract - Blue and Gold.

160. WHO NEEDS COUNSELORS? (No. 145). Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401; October 1965; $5 per hundred. Folder for distribution to high school students, designed to acquaint them with the value of seeking help from a school counselor in deciding upon their after-school career.

161. WHO NEEDS SCHOOL? (No. 146). Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401; July 1966; $5 per hundred. Folder for distributing to potential high school drop-outs, intended to help the student discover for himself the value of additional schooling and to encourage him to seek the help of a school counselor.

OFF-FARM AGRICULTURAL OCCUPATIONS AND BUSINESS

162. BUSINESS PROCEDURES USED IN THE AGRICULTURAL SERVICES (Agdex 835). Harry Plank, Ohio Vocational Agriculture Instructional Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210; 1966; $2.25. This is a workbook designed to help students understand the business operations of the many companies that are supplying materials and services to operating farmers. It is not a complete course in business management and salesmanship. Rather, it is a basis for a better understanding of the operations of a business that a student may enter after graduation from high school. The workbook should be used in conjunction with related classroom and work experience.

163. BUSINESS PROCEDURES USED IN THE AGRICULTURAL SERVICES, TEST AND ANSWER SUPPLEMENT FOR (Agdex 835). Harry Plank, Ohio Vocational Agriculture Instructional Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210; 1966; $2.00 (One needed per teacher). This manual accompanies the above workbook. It provides answers for the workbook exercises and suggested examinations and answers.

164. COURSE OF STUDY FOR AGRICULTURAL MACHINERY MECHANICS HELPER. Agricultural Education Teaching Materials Center, College Station, Texas 77843. 1966: $4.00 (One copy free upon request from out-of-state supervisor or head teacher educator). Developed on a unit basis. (Also part of course for supervisor of ag. machinery partsman and service.)

165. COURSE OF STUDY FOR AGRICULTURAL MACHINERY REPAIRMAN, SET-UP AND DELIVERYMAN. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $4.00 (One copy free upon request from out-of-state supervisor or head teacher trainer.) Developed on a unit basis. (Also part of a course for supervisor of ag machinery partsman and service.)

166. COURSE OF STUDY FOR FEED SALES AND SERVICEMAN. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $2.50 (One copy free upon request from out-of-state supervisor or head teacher educator). Developed on a unit basis.

167. COURSE OF STUDY FOR FERTILIZER SALES AND SERVICEMAN. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $2.50 (One copy free upon request from out-of-state supervisor or head teacher educator.) Developed on a unit basis.

168. DEVELOPING PROGRAMS IN AGRICULTURAL OCCUPATIONS. Harold Binkley for staff in Agricultural Education, Department of Agricultural Education, College of Education, University of Kentucky, Lexington, Kentucky 40508; November 1966; Free as long as supply lasts. Bulletin contents include, 1) Philosophy and Criteria for Pilot Programs for Training Workers in Agricultural Occupations; 2) The Program in Agricultural Occupations at Reidland High School; 3) Updating Vocational Agriculture to Meet Present and Future Needs; 4) Implementing New Programs in Vocational Agriculture; 5) Guidelines in Developing Programs in Agricultural Occupations; 6) A Timetable for Setting Up and Starting a Program in Agricul-

169. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN AGRICULTURAL SERVICE. Vocational Agricultural Education Department, Louisiana State University, Baton Route, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

170. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN FARM SERVICE. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

171. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN FARM MACHINERY SALES AND SERVICE. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

172. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN FARM SUPPLIES AND EQUIPMENT. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

ORNAMENTAL HORTICULTURE

173. AUDIO VISUALS IN ORNAMENTAL HORTICULTURE. Robert Kennedy, Department of Agricultural Education, University of California, Davis, California 95616; July 1965. Single copies available for distribution. This is a publication to provide curricular material and assistance to agriculture teachers.

174. CAREERS IN ORNAMENTAL HORTICULTURE (Series B - Bulletin No. 203). Utech, Hemp, Courson, Benton, and James, State Board of Vocational Education and Rehabilitation, Agriculture Occupations Service, 405 Centennial Bldg., Springfield, Illinois 62706; October 1966; Free on request. This bulletin describes the various opportunities for Careers in Ornamental Horticulture and how programs can be developed.

175. COURSE OF STUDY FOR ASSISTANT GROUNDSKEEPER. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $3.50 (One copy free upon request from out-of-state supervisor or head teacher educator). Developed on a unit basis.

176. COURSE OF STUDY FOR GREENHOUSE WORKERS. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $4.50 (One copy free upon request from out-of-state supervisor or head teacher trainer). Developed on a unit basis.

177. COURSE OF STUDY FOR NURSERY WORKER. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $4.50 (One copy free upon request by out-of-state supervisor or head teacher trainer). Developed on a unit basis.

178. COURSE OF STUDY FOR PARKS AND LANDSCAPE EMPLOYEE. Agricultural Education Teaching Materials Center, College Station, Texas 77843; 1966; $3.50 (One copy free upon request from out-of-state supervisor or head teacher educator). Developed on a unit basis.

179. CREATIVE APPROACHES TO TEACHING ORNAMENTAL HORTICULTURE. Benton K. Bristol, Department of Agriculture, Illinois State University, Normal, Illinois 61761; June 1966; Single copies free as long as present supply lasts. Seven page multilith. General Statements, Examples of Ideas from Various Disciplines Which Apply, Aids, and Resource Persons.

180. FLORICULTURAL CROPS (60 color slides and script). Richard Henley, Ohio Vocational Agriculture Instructional Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210; 1966; $9.50. The objective of this slide series is to introduce vocational horticulture students to the major floricultural crops produced in the United States today. Individual crops are discussed briefly as to types and varieties available, some of the specific cultural requirements, and the uses of the plants by the ultimate consumer.

181. DEMONSTRATION IN ORNAMENTAL HORTICULTURE. Raymond M. Clark, Arlynn D. Anderson, and Richard S. Lindstrom, Bureau of Research and Publications, Erickson Hall, Michigan State University, East Lansing, Michigan 48823; 1966; $1.50. A bulletin of 69 pages describing demonstration dealing with aspects of ornamental horticulture as follows: seed sowing, seed germination, watering, potting and transplanting, propagation of bulbs, construction of propagation systems, making cuttings of herbacious plants, asexual propaga- tion, grafting, asexual propagation of ornamental plants, the use of soiless culture to determine mineral nutrients of plants, the effect of light intensity, the effect of temperature on vegetable growth, the effect of temperature on flowering of herbacious plants, fertilizer application and plant breeding.

182. ORNAMENTAL HORTICULTURE, A GUIDE FOR DEVELOPING THE INSTRUCTIONAL PROGRAM (Series B - Misc. No. 37A). Utech, Courson, Hemp, Berlot, Bristol, and James, State Board of Vocational Education and Rehabilitation, Agriculture Occupations Service, 405 Centennial Building, Springfield, Illinois 62706; August 1966; Free on request. A teachers guide with suggested courses of study, lesson plans, laboratory exercises, facilities, recommendations, etc.

183. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN ORNAMENTAL HORTICULTURE. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

184. WHAT IS HORTICULTURE? (40 slides and script). James Utzinger, Ohio Vocational Agriculture Instructional Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210; 1966; $6.00. The slide series shows the student some of the classroom laboratory and work experiences he would encounter in a vocational horticulture course. Some employment opportunities are also pointed out.

PLANT SCIENCE AND SOILS

185. APPROVED PRACTICES FOR ALFALFA. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; March 1966; $.05 postpaid. This is a four-page publication which can be an aid to teachers for use with student record books, or perhaps other parts of the instructional program. A few of the major headings are: Keeping Records; Testing the Soil and Applying Fertilizer; Selecting Seed; Planting; Controlling Disease and Insects; Harvesting; Evaluating Production Practices.

186. . APPROVED PRACTICES FOR THE CORN ENTERPRISE. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; March 1966; $.05 postpaid. This is a four-page publication which can be an aid to teachers for use with student record books, or perhaps for other parts of the instructional program. A few of the major headings are: Getting Started with Corn; Testing the Soil and Applying Fertilizer; Selecting Seed; Planting; and Cultivating.

187. APPROVED PRACTICES FOR OATS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; March 1966; $.05 postpaid. This is a four-page publication which can be an aid to teachers for use with student record books or perhaps other parts of the instructional program. A few of the major headings are: Testing the Soil and Applying Fertilizer; Selecting Seed; Planting; and Controlling Diseases.

197. PLANT PROPAGATION CALENDAR. Glenn Vaughan, Department of Agricultural Education, University of California, Davis, California 95616 July 1965; Single copies available for distribution.

198. PRODUCING HIGH ALFALFA YIELDS (VAS 4032a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $.25 postpaid (write for quantity prices). This 20-page subject-matter unit is a revision of "Growing Alfalfa" (VAS 4032) printed in 1959. It discusses soil requirements, recommended varieties, seeding, cutting, and harvesting procedures. It includes a description of some of the more common diseases and insects that may attack alfalfa.

199. A PROPOSED COURSE OF STUDY IN PASTURE MANAGEMENT. David Jansen, University of Idaho, Department of Agricultural Education, Moscow, Idaho 83843; October 1966; Management of pastures for livestock.

200. A PROPOSED COURSE OF STUDY FOR RAISING AND MARKETING CHRISTMAS TREES FOR A VO-AG DEPARTMENT. Harvey R. Wallace, University of Idaho, Department of Agricultural Education, Moscow, Idaho 83843; October 1966; Designed primarily for areas where Christmas trees can be produced.

201. A PROPOSED COURSE OF STUDY IN SUGAR-BEET PRODUCTION. David Jansen, University of Idaho, Department of Agricultural Education, Moscow, Idaho 83843; October 1966; Designed for areas where sugar beets are grown.

202. SEED PRODUCTION OF SOME COMMON FIELD CROPS (Agdex 100/40). Clarence R. Fridline, Vocational Agriculture Instructional Materials Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210; 1966; $1.75. The unit has been designed as a student reference. Its purpose is to provide assistance and direction to students for the study of the production of the major grain crops raised in Ohio (corn, wheat, oats, soybeans, barley). The underlying principles of seed production for all crops are first considered. After a basic understanding of seed production has been developed, the individual problems for each crop are then studied.

203. SEEDS AND SEEDLINGS. Roy M. Sachs, Department of Agricultural Education, University of California, Davis, California 95616; July 1965; Single copies available for distribution. Short course in botany for children and adults with or without previous training.

204. SEED QUALITY. . . A MAJOR FACTOR IN CROP YIELDS (Slidefilm 796). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; November 1966; $2.04 postpaid. This is a color, single frame slidefilm of 39 frames. The following points are stressed in the film: With seed costing less than 10 percent of the total production cost, it does not pay to "save" on seed of unknown quality. Top yields call for wise management of all resources. If you have neglected "seed quality" as a major resource, figure ahead next year and let high quality seed raise the ceiling on your yields.

205. SOIL EVALUATION AND JUDGING. John D. Todd and George W. Wiegers, Agricultural Education Department, 303 Morgan Hall, University of Tennessee, Knoxville, Tennessee 37916; June 1966; Copies available without charge for teacher educators and supervisors. A plan for teaching containing objectives, situation, introduction, factors, procedure, references, and test.

206. SOIL MANAGEMENT FOR EFFICIENT LAND USE (Unit). Billy J. Vice; January 1967; Single copy available free only to state supervisors and head teacher educators. Instructional Materials Laboratory Division of Vocational Education, College of Education, University of Kentucky, Lexington, Kentucky 40508.

207. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN CROPS, FORESTRY AND SOIL CONSERVATION. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

208. UNIT COURSE OUTLINE IN FORESTRY. The WAVAI Committee on Forestry, Wisconsin Conservation Department; Wisconsin State Board of Vocational, Technical and Adult Education, Rural Division, Room 830, 1 West Wilson Street, Madison, Wisconsin 53702; July 1966; One copy free. A unit course outline, oriented to training for establishment in forestry-related occupations as well as timber production, forest management, and marketing of forest products. A suggested list of references is attached.

209. USING PRE-EMERGENCE HERBICIDES (Slidefilm 797). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; November 1966; $2.27 postpaid. This is a color, single-frame slidefilm of 45 frames. It gives the latest information concerning pre-emergence herbicides, including how they work, what risks are involved in their use, and how to get the best results. Additional points covered include the nature of the weed problem, the need for early planting, flexibility in timing of cultivation, "weather insurance," and the need for complete weed control.

210. WEED IDENTIFICATION VISUALS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; December 1966; $1.04 postpaid. This is a set of 33 visuals on identification of some of the common weeds found in field crops. It discusses some of the various plant parts used in identification. These 8½ x 11 inch instructional visuals may be used in making overhead transparencies, for direct use with an opaque projector, or for use as charts.

211. WEED CONTROL VISUALS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801; May 1966; $.72 postpaid. This is a set of 24 visuals on controlling weeds in corn and soybeans. These are 8½ x 11 inch instructional illustrations for use in making overhead projection transparencies, for direct use with an opaque projector, or for use as charts.

SUPERVISED EXPERIENCE PROGRAMS

212. CONDUCTING A NON-FARM AGRICULTURAL EXPERIENCE PROGRAM IN VOCATIONAL AGRICULTURE--A HANDBOOK (Vo. Ag. Ed. No. 14). Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; September 1966; One copy free upon request as long as the supply lasts. This handbook has been designed to give the teacher of vocational agriculture direction as programs of instruction in non-farm agriculture are added to the curriculum. Basic principles presented should be adaptable for use in any field of non-farm agriculture.

213. GUIDELINES AND PROCEDURES: DIRECTED WORK-EXPERIENCE PROGRAMS IN VOCATIONAL AGRICULTURAL EDUCATION. Harold R. Cushman, Charles W. Hill, and John K. Miller, The Agricultural Education Division, Rural Education Department, N. Y. State College of Agriculture, Cornell University, Ithaca, New York 14850; September 1966; Single copy free. Tentative guidelines to acquaint teachers of vocational agriculture with fundamental points for consideration in initiating and operating a directed work-experience program including legal requirements.

TEACHING AIDS AND MATERIALS

214. AGRICULTURE LIBRARY SUGGESTIONS BOOKS. Billy J. Vice, Instructional Materials Laboratory, Division of Vocational Education, College of Education, University of Kentucky, Lexington, Kentucky 40508; September 1966; Single copy available free only to state supervisors and head teacher educators.

215. COLLECTING AND PRESERVING SPECIMENS FOR USE IN TEACHING AGRICULTURE (Professional Series - Bulletin No. 8). Clark, Behr, Carter, Janes, Fennel, Churchill, and Foth, Bureau of Educational Research Services, Erickson Hall, Michigan State University, East Lansing, Michigan 48823; Revised 1965; $.50. This 22-page bulletin alerts the teacher to the opportunities for gathering and preserving specimens from the surrounding area for classroom use. Specific areas covered are as follows: (1) collection and preserving of plant materials, (2) collection and preservation of wood specimens, (3) collection and preservation of insects, (4) collection and preservation of soil specimens. This bulletin is intended as a guide for the teacher but will lend itself for students use in preparing demonstrations.

216. LET'S GIVE A DEMONSTRATION. Osmund S. Gilbertson, Department of Agricultural Education, University of Minnesota, St. Paul, Minnesota 55101; June 1966; Single copy available on request. This is a handbook on the principles and procedures of successful demonstrations. It is presented as an aid to teachers and students in the planning, preparation and execution of effective demonstrations.

217. REFERENCE BOOKS FOR HIGH SCHOOL DEPARTMENTS OF AGRICULTURE IN NEW YORK STATE. Lyle L. Wicks, et al., Instructional Materials Service, The Agricultural Education Division, Rural Education Department, 209 Stone Hall, Cornell University, Ithaca, New York 14850; October 1966; Single copy free. This publication is designed to serve as a guide to selection of books for classroom and reference use. Contains over 300 titles with publishing date, cost, and source. Titles are arranged according to subject matter areas.

218. SIX SELECTED INSTRUCTIONAL AIDS FOR TEACHERS OF AGRICULTURE. Charles C. Drawbaugh, Department of Vocational-Technical Education, Rutgers--The State University, 10 Seminary Place, New Brunswick, New Jersey 08903; February 1966; $1.00. The booklet consists of the following: 1) Originals for preparing overhead transparencies on landscape planning; 2) Information and directions necessary to make soil monoliths; 3) A suggested form and some pertinent information for teaching identification and value of 54 common landscape plants; 4) Questions and answers about vocational agriculture and FFA helpful in developing a recruitment brochure; 5) A description for a set of 51 slides useful in promoting the agricultural program; 6) Plans for constructing an electric panel quiz board.

219. TEACHING AIDS FOR VOCATIONAL AGRICULTURE. A. K. Jensen and F. E. Kirkley, Department of Agricultural Education, Clemson University, Clemson, South Carolina 29631; 1966; Free. Tools, equipment and other aids needed in a department of vocational agriculture.

MISCELLANEOUS

220. THE AGRICULTURAL ADVISORY BOARD. Harold R. Cushman, The University of the State of New York, State Education Department, Bureau of Agricultural Education, Albany, New York 12224; 1966; No charge for single copies. This is a handbook for boards of education, school administrators, advisory board members and teachers of agriculture. It is designed to assist them in capitalizing on the most effective use of procedures for establishing, procedures for meetings and suggested activities.

221. AGRICULTURAL EDUCATION--CHANGE-TRENDS, IMPLICATIONS, ISSUES. Claude McGhee, Agricultural Education Department, West Virginia University, Morgantown, West Virginia 26506; One copy free. Treats the psychology of change, socio-economic, agricultural and educational trends; present day issues in agricultural education.

222. ATTITUDE INVENTORY FOR HUNTERS. Frank Anthony, Department of Agricultural Education, Pennsylvania State University, University Park, Pennsylvania 16802; 1966; Single copies available free. Tests hunters' attitudes to the "Ten Commandments of Hunting Safety."

223. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN WILDLIFE AND RECREATION. Vocational Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana 70800; Summer 1966; One copy free upon request as long as supply lasts.

224. A VOCATIONAL AGRICULTURE DEPARTMENT--ITS NEEDS AND COSTS OF ESTABLISHING IN WEST VIRGINIA. W. G. Kelly, Agricultural Education Department, West Virginia University, Morgantown, West Virginia 26506; July 1966; One copy free. By the West Virginia Standards this publication gives the complete recommendations for a vocational agriculture department, including costs of all materials and equipment.

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101. AGRICULTURAL MECHANICS INSTRUCTION IN SECONDARY SCHOOLS. G. G. Powell, Jr. and G. M. Walker, Teaching Aids Library for Vocational Education in Agriculture, P.O. Drawer AV. State College, Mississippi 39762, 1968. A description of the laboratry work areas concept of agricultural mechanics instruction. Available outside of Mississippi to state supervisors and head teacher educators only.

102. AGRICULTURAL MECHANICS PLANS. J. C. Hollis, G. L. White, State Department of Education; D. N. Bottoms, Teacher Trainer Staff, Auburn University. State Department of Education, Vocational Education Division, Vocational Agriculture Service, Montgomery, Alabama 36801, 1968. A publication containing 194 different plans for shop projects. Available only to Alabama teachers and out of state head teacher trainers and state supervisors. No charge.

103. AGRICULTURAL MECHANIZATION - GUIDE FOR PLANNING AND ORGANIZING OCCUPATIONAL PROGRAMS. Frank T. Vaughn, Bureau of Agricultural Education, State Education Department, Albany, New York 12224, 1969. A resource instrument for school administrators, directors of occupational education, teachers of agriculture and others concerned with the establishment of programs in agricultural mechanization. Single copies free to state staff members.

104. BASIC ELECTRONIC COMPONENTS: RESISTORS. 165-1. Nelson L. Smith, III, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A 48-frame color filmstrip that shows types of resistors, functions, and mode of operation. This difficult subject is made extraordinarily clear and interesting for the student through the introduction of an actual resistor as an "actor." Price: $7.50.

105. COMBINES AND COMBINING. Agdex 745. Harlan E. Ridenour, Agricultural Education Curriculum Material Service, The Ohio State University, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A manual structured for student use. It is extensively illustrated by means of line drawings, charts, graphs, and pictures. The subject matter is divided into the following areas: (1) What is the value of doing a good job of combining?; (2) The basic design of the combine; (3) The operation of the combine; and (4) The economics of owning a combine. Price: $1.00.

106. COMBINES PRINCIPLES OF OPERATION. Agdex 745. Harlan E. Ridenour and D. M. Byg, Agricultural Education Curriculum Material Service, The Ohio State University, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A series of 39 color slides and illustrated script. The series is designed to accompany the manual "Combines and Combining." The design of the combine and principles of operation are illustrated. Price: $6.00.

107. CONCRETE MASONRY VISUALS. R. F. Espenschied, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a set of 45 visuals on concrete masonry. They are 8 1/2" x 11" instructional illustrations for use in making overhead projection transparencies. They are contained in a pocket folder for filing. Price: $1.25 postpaid when payment accompanies order.

108. CONTROLS FOR AUTOMATION IN AGRICULTURE. Three separate booklets: (1) Student Handbook; (2) Student Laboratory Manual; (3) Teacher's Unit Plan. Agricultural Education Department, The Pennsylvania State University, University Park, Pennsylvania 16802. The three booklets serve as a guide in gathering and constructing laboratory equipment for use in teaching the unit. Classroom instruction (Student Handbook) and practical laboratory exercises (Student Laboratory Manual) are used to tie together and teach the following problem areas: (1) Automation, Mechanization, and Agriculture; (2) Heat and Light'Sensitive Controls; (3) Pressure Sensitive Controls; (4) Electric Controls; (5) Magnetic Controls; (6) Mechanical Controls; (7) Special Factors in Control Selection; (8) Maintenance of Automatic Controls. The unit may be ordered directly from the Agricultural Education Department, The Pennsylvania State University, University Park, Pennsylvania 16802. Price: (1) $1.25, (2) $.50, (3) $1.00.

109. ELECTRIC DEMONSTRATION CENTER. A cooperative project, Division of Vocational-Technical Education, Agricultural Education Service, State Office Building, Montpelier, Vermont 05602, 1959. A 40-page publication dealing with the teaching of electricity to Vo-Ag classes. Contains diagrams of cabinets, equipment and supplies needed, also plans for using the Electric Demonstration Center. Price: Free as long as the supply lasts.

110. ELECTRICAL TERMS - THEIR MEANING AND USE. G. E. Henderson and C. E. Turner, American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1967. Contains 36 pages, 75 illustrations, three colors, size 8 1/2" x 11". For those who know little or nothing about electricity, but would like a working knowledge of it. Terms are explained, then used in practical illustrations to show their value in an everyday understanding of electricity. The discussion also deals with rates and how electrical energy is purchased. It includes a table which lists 122 pieces of farm and home electrical equipment, the approximate wattage of each, and the approximate kilowatt-hour usage. Price: $1.15 Postpaid.

111. ELECTRICAL TERMS - THEIR MEANING AND USE. (Filmstrip.) G. E. Henderson and C. E. Turner, American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1967. 35 MM. Contains 89 single frames in color. Parallels publication of the same name. Script is on the film. Price: $15.60 set of two strips, postpaid.

112. FARM MECHANICS BASIC TO DAIRY FARMING. Vo. Ag. Ed. No. 26. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, Louisiana 70803, 1968.

113. FARM TRACTOR TUNE-UP AND SERVICE GUIDE. J. H. Turner et al., American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1968. Contains 30 pages, 22 of which are 11" x 23" folded into an 8 1/2" x 11" binding; two color. Includes the following information for gasoline, diesel and LP-Gas standard farm tractors built since 1948: Valve-tappet clearances, distributor caps, location of timing marks, ignition timing recommendations, spark-plug heat range, and fan belt deflections, free pedal travel for brakes, oil capacities, types, and viscosities, PTO horsepower ratings, calcium chloride recommendations for tires, and cooling system freezing protection table. Price: $3.40 postpaid.

114. FIELD MOWER, SERVICE, REPAIR AND MAINTENANCE. Forrest Bear and Emery Krech, Bulletin Room, Inst. of Ag., University of Minnesota, St. Paul, Minnesota 55101, 1968. Form AEAE-3. A student workbook to be used in conjunction with the Field Mowers text published by AAAE & Vo-Ag. It has six lessons. Price: 15 workbooks, $4.00; 20 workbooks $5.40.

115. FUNDAMENTALS OF HOUSE WIRING. William N. Cherry and Wayne Hurd, Agricultural Engineering Division, Department of Agriculture, Murray State University, Murray, Kentucky 42071, 1969. Single copy available upon request from state directors and head teacher trainers.

116. HOW TO BUILD A TRACTOR CARRY-ALL. Curtis R. Weston, University of Missouri, 122 Waters, Columbia, Missouri 65201, 1968. The publication includes a bill of materials and a step by step construction procedure to use in constructing a tractor carry-all. Price: $.30.

117. INTRODUCTION TO IRRIGATION. 162-1. Gerald L. Westesen and John L. Merriam, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A filmstrip in color that explains the importance of irrigation. Tells basic methods of computing water needs and what benefits can be expected, then shows typical irrigation methods. Price: $7.50.

118. OXY ACETYLENE WELDING, FLAT POSITION WELDS. 155-1. Glenn Seeber and Ray Allen, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A filmstrip and illustrated script which depicts in 67 frames the proper methods of making simple flat position welds. The filmstrip is a complete guide for the student attempting his first weld, from adjusting the flame to correct torch angle. Safety under realistic shop conditions is emphasized. Price: $6.50.

119. PLANNING MACHINERY PROTECTION. G. E. Henderson et al., American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1968. Contains 40 pages, 60 illustrations, two colors, size 8 1/2" x 11". Describes the different methods of protecting farm machines, the effectiveness of the methods and their costs. It also gives detailed information on how to select a machinery storage structure that is adapted to the individual's needs. Includes cause of equipment depreciation, principles of protective care, kinds of protective measures, effects of protective measures, machine space requirements, management practices. For storage buildings, types, entrance locations, electrical layout, costs, and location. Price: $1.40 postpaid.

120. PLANS FOR PORTABLE ENGINE STAND. Fred J. Walmsley, Collegiate Chapter of FFA, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843, 1968. Detailed plans for a stand to hold a six or eight cylinder block for repair purposes. Engine can be easily moved and rotated to facilitate work. Price: $.25.

121. PLANS FOR PORTABLE FOOT TRIMMING CATTLE CHUTE. Wayne H. Borgen, Collegiate Chapter of FFA, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843, 1968. Plans include detailed drawings and bill of materials. Price: $.25.

122. RESOURCE MATERIAL FOR TEACHING AGRICULTURAL MECHANICS. Curtis R. Weston et al., University of Missouri, 122 Waters, Columbia, Missouri 65201, 1968. The authors have compiled a coded listing of resource material for teaching agricultural mechanics. The source, costs, and description of the materials is included in this publication. Supply limited. Price: $2.00.

123. SHOP MADE HYDRAULIC PRESS. Harvey R. Wallace, Collegiate Chapter of FFA, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843, 1968. Strong enough to use a 40-ton jack. Price: $.25.

124. SMALL ENGINES - CARE, OPERATION, MAINTENANCE, AND REPAIR. Vol. I. J. H. Turner and G. W. Smith, American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1968. Contains 160 pages, 168 illustrations, 4 colors, size 8 1/2" x 11". Gives basic engine operating principles and step by step procedures for the care, operation and service of 2-cycle and 4-cycle engines and accessories. Includes: small engine types, fuel systems, air cleaners, carburetors, batteries, starters, spark plugs, crankcase breathers, starting, operating cleaning, storing lubricating, adjusting, safety and operating troubles. Price: $5.30 postpaid.

125. SMALL ENGINES - CARE, OPERATION, MAINTENANCE, AND REPAIR. Vol. II. J. H. Turner and G. W. Smith, American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1968. Contains 208 pages, 328 illustrations, 4 colors, size 8 1/2" x 11". Deals with the design and operating principles that are important for those interested in advanced maintenance and repair of 2-cycle and 4-cycle engines. Includes: step by step procedures for repairing starters, ignition systems, fuel systems, governors, lubrication systems, generators, carburetors, flywheels, valves, cylinders, piston-and-rod assemblies, camshaft assemblies, crankshaft assemblies, and cylinder heads. Price: $7.75 postpaid.

126. SMALL GAS ENGINES. William N. Cherry and Wayne Ezell, Agricultural Engineering Division, Department of Agriculture, Murray State University, Murray, Kentucky 42071, 1966. Deals with the principles of operation of small gas engines.

127. SMALL GASOLINE ENGINES (ORNAMENTAL HORTICULTURE). 155-1. James Berman, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A laboratory guide for the teacher. Lesson plans give detailed information about tools and machinery needed in each lab. The teacher is shown how to lead the student through all steps in dismantling and repairing small engines. A five-point quiz for each lab period is included. Price: $1.80.

128. SOLDERING FUNDAMENTALS FOR HOME, FARM, AND SHOP USE. VAS 3027. R. F. Espenschied, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 24-page subject-matter unit discusses the soldering process, different soldering fluxes, heat, and procedures, and shop and laboratory applications. Price: $.30 postpaid when payment accompanies order.

129. THE ENGINE COOLING SYSTEM. VAS 3030. R. F. Espenschied, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 24-page subject-matter unit discusses types of cooling systems, coolants to use, and preventative maintenance and repair necessary. Price: $.30 postpaid when payment accompanies order.

130. TRACTOR OPERATION AND DAILY CARE. G. E. Henderson et al., American Association for Agricultural Engineering and Vocational Agriculture, Agricultural Engineering Center, Athens, Georgia 30601, 1967. Contains 120 pages, 360 illustrations, 4 colors, size 8 1/2" x 11". Includes: checking and servicing: air cleaners, engine lubrication, cooling system, fuel filters, tires, grease fittings, oil grades, additives, gear oils, hydraulic oils, greases lubricant storage. Starting engines, warm-up adjustments. Attaching: drawbar equipment, mounted equipment, power take-off, hydraulic equipment and belt-driven equipment. Operating: in field, on highways, gear selection, providing traction, emergency conditions, and safety. Price: $4.50 postpaid.

131. USE OF THE LEVEL, READING THE ROD. 159-1. James P. Webster, Jr., Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A 39-frame color filmstrip that shows the student how to read the various types of rods. Designed as a sequel to the filmstrip "Use of the Level, Setting Up the Instrument." This filmstrip carries the student to the point of beginning work in the field. Price: $6.50.

132. USING THE CARBON ARC TORCH. VAS 3029. R. F. Espenschied, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 12-page subject-matter unit discusses the carbon arc process, uses for the carbon arc torch (including hard facing), and safety precautions that should be followed. Price: $.15 postpaid when payment accompanies order.

133. VO-AG SHOP GUIDE FOR SECOND-YEAR STUDENTS. J. C. Hollis, District Supervisor, State Department of Education, Vocational Education Division, Vocational Agriculture Service, Montgomery, Alabama 36801, 1968. A workbook type publication. Covers units on arc welding; simple farm plumbing; small gasoline engines; power woodworking tools; farm electricity; acetylene welding; painting farm machinery; and hot and cold metal work. Not available out of state except to head teacher trainers and state supervisors. No charge.

134. WELDING JIG PLANS FOR USE IN VOCATIONAL AGRICULTURE SHOPS. Wayne H. Borgen, Collegiate Chapter of FFA, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843, 1968. This simple welding jig is designed for fast positioning of the metal being welded. Any position can be obtained by moving the spring loaded angle iron. Ideal for hard surfacing plow shares or welding any other light object that requires considerable positioning. Price: $.25.

135. YOUR FUTURE AS A DRAFTSMAN. 157-1. J. M. McRobbie, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A 70-frame filmstrip with illustrated script and taped narration that shows the opportunities for a satisfying career as a draftsman. It explains working conditions, educational requirements, responsibilities, and opportunities. Price: $9.95.

ANIMAL SCIENCE

136. A GUIDE FOR VOCATIONAL AGRICULTURE STUDENTS WITH OCCUPATIONAL OBJECTIVES IN DAIRY FARMING. Vo. Ag. Ed. No. 15. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, La. 70803, 1966.

137. A REFERENCE UNIT ON UREA--A PROTEIN EXTENDER IN RATIONS FOR RUMINANTS. Lloyd P. Jacks, Agricultural Education Department, Subject Matter Service, P.O. Drawer AV, State College, Mississippi 39762, 1966. Price: Single copy free only to state supervisors and head teacher educators.

138. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN DAIRY PRODUCTION. Vo. Ag. Ed. No. 25. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, La. 70803, 1968.

139. ANIMAL REPRODUCTION TRANSPARENCIES. No. 1002. Foy Page and Charles Palmer, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Series of 6 transparencies in color illustrating animal reproduction, with script. Price: $1.50.

140. ANIMAL REPRODUCTION TRANSPARENCY MASTERS. No. 1502. Foy Page and Charles Palmer, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Series of 6 transparency masters illustrating animal reproduction, with script. Price: $.50.

141. APPROVED PRACTICES FOR BEEF. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 4-page leaflet lists specific practices used by successful beef producers. It may be used by students in planning and carrying out their supervised experience programs in which beef cattle are involved. Price: $.05 postpaid when payment accompanies order.

142. APPROVED PRACTICES FOR DAIRY. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 6-page leaflet lists specific practices used by successful dairymen. It may be used by students in planning and carrying out their supervised experience programs in which dairy cattle are involved. Price: $.05 postpaid when payment accompanies order.

143. APPROVED PRACTICES FOR SHEEP. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 4-page leaflet lists specific practices that successful sheep producers follow. This may be used by students in planning and carrying out their supervised experience programs in which sheep are involved. Price: $.05 postpaid when payment accompanies order.

144. APPROVED PRACTICES FOR SWINE. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 4-page leaflet lists specific practices that successful swine producers follow. It may be most useful to students in planning and carrying out their supervised experience programs where swine are involved. Price: $.05 postpaid when payment accompanies order.

145. COURSE OF STUDY FOR SWINE FARM EMPLOYEE. No. 26. Harold Schafer and Edward Simpson, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program for Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic sheets, and test answer sheets. Price: $4.74.

146. DAIRY CATTLE FEEDING. VAS 1020a. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 12-page subject-matter unit discusses the nutrients, roughages, grain, and supplements suitable for dairy cattle, challenge feeding cows, and the feeding of dairy heifers. Price: $.15 postpaid when payment accompanies order.

147. KEEPING LIVESTOCK HEALTHY. HS 36. Billy J. Vice, Instructional Materials Laboratory, Department of Vocational Education, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506, 1967. A teaching unit developed for use with high school boys. Includes suggested learnings to be developed and references to be used. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the State of Kentucky. Free to teachers of agriculture in the State of Kentucky.

148. MANAGING THE BEEF BREEDING HERD. VAS 1010a. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 16-page subject-matter unit discusses the feed and care for the breeding herd, the cow at calving time, and calves. A section on feeds includes protein supplements, roughages, and rations. Price: $.20 postpaid when payment accompanies order.

149. POULTRY SELECTION AND JUDGING. 153-1. Leo Sankoff, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. Two filmstrips with illustrated script that show in color the skills for handling and judging poultry. Part I, a 62-frame filmstrip, includes rules of preparation and skills for judging; it also covers the relation between production and pigmentation. The 50-frame Part II shows the popular breeds used in the poultry industry and the major and minor defects found in chickens. Price: $14.75.

150. PREVENTING TRANSPORTATION LOSSES OF LIVESTOCK. Slidefilm 186A. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a color, single-frame slidefilm of 33 frames that discusses, by means of cartoons, the causes and means of preventing bruises on livestock. Price: $2.55 postpaid when payment accompanies order.

151. SELECTING BREEDING SHEEP. Slidefilm 143A. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a color, single-frame slidefilm of 72 frames. It discusses and illustrates desirable characteristics, parts of a sheep, desirable physical characteristics, and selection on producing ability. Price: $3.80 postpaid when payment accompanies order.

152. SOURCE UNITS IN ANIMAL SCIENCE. Raymond Clark et al., Educational Publication Services, 202 Erickson Hall, Michigan State University, East Lansing, Michigan 48823, 1968. Source Units in Animal Science for 9th or 10th grade students in vocational agriculture. Suggested as basic for occupations in farming and agricultural business. Price: $1.50.

153. SWINE CARCASS EVALUATION. 161-1. Stan Sears et al., Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A color filmstrip that demonstrates forcibly the relation between the appearance of the live animal and the dressed carcass. Several views are shown of the animals before and after slaughter. Extensive comments on the animals strengthen the filmstrip's usefulness as an aid for teaching the judging and grading of swine. Price: $6.50.

154. SYSTEMIC CATTLE GRUB CONTROL TRANSPARENCIES. No. 1001. Foy Page and Charles Palmer, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Series of 22 transparencies (in color) illustrating systemic cattle grub control, with script. Price: $3.50.

155. SYSTEMIC CATTLE GRUB CONTROL TRANSPARENCY MASTERS. No. 1501. Foy Page and Charles Palmer, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Series of 22 transparency masters illustrating systemic cattle grub control, with script. Price: $1.30.

156. SYSTEMIC CATTLE GRUB CONTROL 2 x 2 SLIDE SET. No. 217. Foy Page, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Set of color 2 x 2 slides (28 slides) illustrating systemic control of cattle grub, with script. Price: $5.00.

157. THE COW'S UDDER AND HOW IT FUNCTIONS. Slidefilm 208A. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a color, single-frame slidefilm of 48 frames. It illustrates and explains the functions of the various parts of the cow's udder, explains how the cow "lets down" her milk, and what happens to milk "let down" when a cow is frightened or injured. Price: $3.05 postpaid when payment accompanies order.

158. TRAINING POULTRY JUDGING TEAMS. Douglas A. Scoville, Collegiate Chapter of FFA, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843, 1968. An illustrated booklet designed to help train poultry judging teams for local, state, and national contests. Price: $.50.

159. TRANSPARENCIES IN LIVESTOCK. A. K. Jensen, Agricultural Education Department, Clemson University, Clemson, South Carolina, 1968. Transparencies are on several areas in livestock production: (a) History of Cattle and Swine, (b) Breeds, (c) Reproduction and Genetics, (d) The Ruminant Stomach, and (e) Artificial Insemination. One copy available per state at no cost. None for sale.

160. UREA AS A RUMINANT SUPPLEMENT. VAS 1042. W. H. Witt, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 8-page subject-matter unit discusses the economy of urea as a feed, where it can be used, and a list of urea-containing supplements. Price: $.10 postpaid when payment accompanies order.

CONSERVATION AND FORESTRY

161. CONSERVATION - A GUIDE FOR PLANNING AND ORGANIZING OCCUPATIONAL PROGRAMS. Bureau of Agricultural Education, State Education Department, Albany, New York 12224, 1968. A resource instrument for school administrators, directors of occupational education, teachers of agriculture and others concerned with the establishment of conservation programs. Major headings include: 1. Planning Programs in Conservation; 2. Developing the Course of Study; 3. Suggestions for Planning Facilities Needed; 4. Suggestions for Developing Lists of Needed Equipment and Supplies; 5. Selecting Instructional Materials. Price: Single copies free to state staff members.

162. COURSE OF STUDY FOR FORESTRY WORKER. No. 27. Kyle Leftwich and Len Steakley, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program for Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic sheets, and test answer sheets. Price: $3.40.

163. COURSE OF STUDY FOR WILDLIFE CONSERVATION EMPLOYEE. No. 28. C. B. Chenault and Clarence Karcher, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program for Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic tests, and test answer sheets. Price: $5.55.

164. GUIDELINES FOR DEVELOPING PROGRAMS IN FORESTRY, CONSERVATION AND OUTDOOR RECREATION. Bice and Dunsmore, Agricultural Education Service, Morrill Hall, University of Vermont, Burlington, Vermont 05401, 1967. Contains a course of study, equipment list, reference books and sources of teaching aids. Price: Free as long as the supply lasts.

165. TEACHING WILD DEER AND TURKEY MANAGEMENT. No. 446. Foy Page, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Instructional materials for the vocational agriculture teacher in Production Agriculture. Technical information and daily lesson plans based on the information. Price: $. 50.

166. THE CLEMSON FORESTRY ACHIEVEMENT TEST. J. A. Hash, Agricultural Education Department, Clemson University, Clemson, South Carolina 29631, 1968. A standardized achievement test of 100 multiple-choice items for use with high school students. Content validity was established through judgment of experts. The final test form had a Kuder-Richardson formula 20 reliability coefficient of . 90 and a standard error of measurement of 4. 71. Tentative norms in the form of percentile ranks and T-scores for grades 9, 10, 11, and 12 are available. Price: Negotiable depending on intended use. Free for research purposes.

CURRICULUM DEVELOPMENT AND COURSE OF STUDY

167. AGRICULTURAL CURRICULUM GUIDE. Prepared cooperatively by New Hampshire Agricultural Teacher's Association and State Department of Education. Agricultural Education, Taylor Hall, University of New Hampshire, Durham, New Hampshire 03824, 1968. Vocational Education in Life Science, Recreation and Agriculture - Course Options and Suggested Courses of Study for New Hampshire High Schools.

168. COURSE OF STUDY FOR RANCH EMPLOYEE. No. 22. Foy Page and Colvin Walker, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program for Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic sheets, and test answer sheets. Price: $7. 10.

169. FUNCTION APPROACH TO IDENTIFYING CURRICULAR CONTENT APPROPRIATE TO VOCATIONAL-TECHNICAL PROGRAMS. Raymond M. Clark and O. Donald Meaders, Educational Publication Services, 202 Erickson Hall, Michigan State University, East Lansing, Michigan 48823, 1968. This report describes an approach for developing vocational-technical curricular materials through an analysis of the functions of a business or industry and the competencies and activities of employees which enable them to contribute to the performance of one or more of these functions. Integration of subject matter from many academic areas, and from several of the vocational areas is emphasized as basic to the development of an adequate vocational program. The bulletin reviews a number of studies in the agri-business field which deal with the functions approach. Price: $1. 25.

170. PROGRAM PLANNING IN ADULT EDUCATION. Dr. Howard W. Deems, Agricultural Education Department, North Carolina A & T State University, Greensboro, North Carolina, 1968. Suggestions for planning programs in adult education. Immediately available - limited quantity. Price: $. 50.

171. THE TOTAL PROGRAM IN VOCATIONAL AGRICULTURAL EDUCATION. State Staff, Agricultural Education Department, Clemson University, Clemson, South Carolina 29631, 1968. This publication describes the total program in South Carolina. Locations of departments, course offerings and curricula for in-school and adults are presented. One copy per state if desired. Not for sale.

172. USING EXISTING VOCATIONAL PROGRAMS FOR PROVIDING EXPLORATORY EXPERIENCES. James Albracht et al., 103 Holton Hall, Kansas State University, Manhattan, Kansas 66502, 1968. A model for organizing and conducting exploratory experiences for upper junior high and high school students. Price: Free as long as supply lasts.

FARM BUSINESS MANAGEMENT AND MARKETING

173. A GUIDE TO ON-FARM INSTRUCTION IN FARM MANAGEMENT. Eugene Francis, Bulletin Room, AEAE, Institute of Agriculture, University of Minnesota, St. Paul, Minnesota 55101, 1967. This useful teaching aid was written by a full-time adult farm management educator with several years of experience and a highly successful approach to farm visits. Price: $2.50.

174. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN APPLIED AGRICULTURAL ECONOMICS BASIC TO FARMING. Vo.Ag.Ed. No. 24. 1968. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, Louisiana 70803.

175. DECIDING ON THE KIND AND NUMBERS OF FARM ANIMALS TO HAVE ON THE HOME FARM. HS 33. Herbert Bruce, Instructional Materials Laboratory, Department of Vocational Education, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506, 1967. A teaching unit developed for use with high school boys. Includes suggested learnings to be developed and references to be used. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the State of Kentucky. Price: Free to teachers of agriculture in the State of Kentucky.

176. DETERMINING CREDIT NEEDS ON THE FARM. J. H. Herbst, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 12-page subject-matter unit illustrates the need for capital for land and buildings; machinery, livestock facilities, and breeding stock; and annual operating expenses. Illustrations are included on the preparation of budgets to help determine the results from using credit. A problem-farm illustration is included, along with the credit needs of the operation. Price: $.15 postpaid when payment accompanies order.

177. DuMORE FARM RECORDS PROBLEM. Arthur C. Duarte and Harold D. Morris, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A workbook for students of elementary farm record keeping. An imaginary farm gives the illusion of reality to this problem. Such complex matters as taxation and depreciation are presented on a level appropriate for the student's understanding. Reproduction of ledger sheets are included so that the students also learn the proper forms for each type of entry. Price: $2.50.

178. ESTATE PLANNING - A SOURCE UNIT FOR ADULT EDUCATION COURSES. Paul E. Hemp, Division of Agricultural Education, University of Illinois, 358 Education Building, Urbana, Illinois 61801, 1968. Suggestions for organizing and teaching an adult course on estate planning. Price: $.35.

179. FARM BUSINESS PLANNING AND ANALYSIS PROGRAM AND INSTRUCTIONAL UNITS. Agdex 810. John T. Starling et al., The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A series of 42 teaching units for three phases of the Farm Business Planning and Analysis program. Phase I, The value and need for farm records; Phase II, Summary and analysis of farm business records; Phase III, Farm planning and reorganization. The materials are designed for use with farmers enrolled in a Farm Business Planning and Analysis program. They may be adapted for use with high school farm management courses. Price: $5.00.

180. FARM PRODUCTION AND MANAGEMENT - GUIDE FOR PLANNING AND ORGANIZING OCCUPATIONAL PROGRAMS. Bureau of Agricultural Education, State Education Department, Albany, New York 12224, 1969. Suggestions for developing a course of study in Farm Production and Management for new programs being established; and for revising present programs already in existence. Price: Single copies free to state staff members.

181. KEEPING RECORDS. HS 87. Billy J. Vice, Instructional Materials Laboratory, Department of Vocational Education, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506, 1968. A teaching unit including suggested learnings to be developed, teaching learning activities, and references and instructional materials. Transparency masters for making transparencies for use with overhead projectors are available with the unit. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the State of Kentucky. Price: Free to teachers of agriculture in the State of Kentucky.

182. KEEPING RECORDS OF THE SUPERVISED FARMING PROGRAM. VAS 2041. J. H. Herbst and G. C. Burkett, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1967. This 28-page subject-matter unit briefly discusses the relationship between the supervised farming program and the agricultural experience program, followed by brief information on developing a farming program. It is primarily concerned with giving instructions on the filling in of the student record book used in Illinois, although the principles apply to other states also. The material covers the setting up of records, the keeping of records throughout the year, and summarization and analysis. Price: $.35 postpaid when payment accompanies order.

183. MAKING MANAGEMENT DECISIONS USING FARM RECORDS, TEACHER EDUCATION SERIES, VOL. 8, No. 4. Samuel M. Curtis and William M. Fredd, Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1967. Six problem areas are presented for use in adult farmer classes in farm management. Management decision-making and economic analysis are presented. The types of record keeping needed for decision data follow in the remaining four lessons. This is a subject oriented handbook. Price: $1.00.

184. PLANNING FOR REPAYMENT OF LOANS. VAS 2026a. J. H. Herbst, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This subject-matter unit of 16 pages includes a method of estimating income and expenses and preparing cash flow budgets for a 4-year period. During this period, the monthly or quarterly needs for credit are illustrated. The periods of repayment, based on earnings, are also included. In addition, the farmer's net worth is projected over the four-year period. Price: $.20 postpaid when payment accompanies order.

185. PROFIT PROSPECTS FOR CATTLE FEEDING. Slidefilm 376. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This single-frame filmstrip in color contains 64 frames. Topics discussed are: the present setting of agriculture, changes in cattle marketings, sources of Illinois feeder cattle, buying cattle, the demand for beef in the future, annual costs, typical costs of various systems, and the use of partial budgets. Price: $3.55 postpaid when payment accompanies order.

186. RESOURCE UNIT - MARKET ANIMAL EVALUATION. Lowell F. Ahrens and John F. Thompson, Department of Agricultural & Extension Education, University of Wisconsin, 208 Agricultural Hall, Madison, Wisconsin 53706, 1968. Price: No charge. Will send orders up to 10 copies.

187. SHADY LANE FARM MANAGEMENT AND RECORDS PROBLEM. 163-1. Gaylord J. Chizek and John A. Rogalla, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A workbook for advanced students of farm record keeping. A chronological list of transactions is included for entry into records. By use of overhead transparencies the teacher shows students how to make his own record book. Price: $2.50.

188. STANDARDS FOR MEASURES OF EFFICIENCY. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 8-page item is made available each year to serve as a means of comparison for records of adult farmers and for enterprises in students' farming programs. Standards for physical measures are taken from the preceding year's results from farmers enrolled in the Illinois Farm Business Farm Management Service. Current prices and costs are then applied to obtain income estimates. Price: Pack of 10 $.60 postpaid when payment accompanies order.

189. UNIT BUDGETS. Agdex 810. Emerson Shimp and John T. Starling, The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. Unit budgets have been prepared for various production and price levels within each enterprise group. They are based upon average price and cost figures. The primary purpose of these budgets will be as guidelines for teachers to use in helping high school students develop budgets for crop and livestock enterprises and in helping farm operators with farm planning and reorganization. Price: $.75.

190. USING CREDIT TO INCREASE FARM EARNINGS. VAS 2024a. J. H. Herbst, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 8-page subject-matter unit discusses the relationship between invested capital and earnings from farming. Earnings of grain farms of different sizes are included. Also illustrated are typical family living expenses of Illinois farm families. A general discussion is included on the use of credit to increase farm earnings. Price: $.10 postpaid when payment accompanies order.

191. USING THE ILLINOIS FARM RECORD BOOK. VAS 2009a. J. H. Herbst, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 20-page subject-matter unit discusses specifically the use of the Illinois Farm Record Book. Record-keeping principles also apply to other states. Some topics are: organization of the book; entering inventories; setting up depreciation schedules and calculating depreciation; keeping current records of receipts, expenses, and production; summarizing records; and obtaining analysis measures. Price: $.25 postpaid when payment accompanies order.

GUIDANCE AND OCCUPATIONAL OPPORTUNITIES

192. A HANDBOOK FOR PROSPECTIVE STUDENTS IN VOCATIONAL AGRICULTURE IN LOUISIANA. Vo. Ag. Ed. No. 12. Vocational Agricultural Education, Room 204, Field House, Louisiana State University, Baton Rouge, Louisiana 70803, 1966.

193. EDUCATIONAL AND OCCUPATIONAL ADJUSTMENT OF WISCONSIN MALE YOUTH. Bulletin. Walter T. Bjoraker and George W. Sledge, Agricultural Bulletin Mailing Room, Hiram Smith Hall Annex, University of Wisconsin, Madison, Wisconsin 53706, 1968. A report of a 11-year longitudinal study carried out under the auspices of the College of Agricultural Experiment Station. Price: No charge.

194. OPPORTUNITIES IN AGRICULTURAL EDUCATION - A CHALLENGE TO PREPARE FOR LEADERSHIP. Agricultural Education Department, North Carolina A & T State University, Greensboro, North Carolina 27411, 1968. Designed to be used for recruitment. It points up the many opportunities in Agricultural Education and the challenge to prepare for leadership. Price: $.50.

195. OPPORTUNITIES THROUGH VOCATIONAL AGRICULTURE IN SOUTH CAROLINA. Agricultural Education Department, Clemson University, Clemson, South Carolina 29631, 1968. Not for sale.

196. PLANNING FOR A CAREER IN AGRICULTURE - Student Recourse Unit and Teacher's Guide, Teacher Education Research Series Vol. 8, No. 2. Norman K. Hoover et al., Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. The Student Resource Unit has five Problem Areas dealing with 43 pages of reading material. This is followed by 40 Occupational Briefs, five for each of the Instructional Areas in Agricultural Education. The Teacher's Guide offers suggestions for teaching a Career in Agriculture Unit. Price: $1.50 for Student Resource Unit - $.40 for Teacher's Guide.

OCCUPATIONAL EXPERIENCE PROGRAMS

197. A UNIT IN WORK EXPERIENCE. Mrs. Charlotte K. Glenn, Department of Applied Behavioral Sciences, University of California, Davis, California 95616, 1968. A unit in work experience to be used in the preparation of new teachers during the student teacher year. Single copies available upon request.

198. DEVELOPING SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAMS. James E. Christiansen et al., Vocational Technical and Adult Education, 186 Norman Hall, University of Florida, Gainesville, Florida 32601, 1968. This is a handbook for teachers of vocational agriculture to use as they provide meaningful supervised occupational experiences for their students as an integral part of the total program of vocational education in agriculture, experiences which meet the needs of students as they explore different occupational areas and develop a wide range of salable skills. This handbook may be used as a reference by school administrators, guidance counselors, and other interested persons seeking a better understanding of the role different types of occupational experiences play in agricultural education programs in high school, area vocational school, and post-high school settings. Limited supply available to head teacher trainers and/or head state supervisors. Price: Not for sale.

199. GUIDE FOR SUPERVISED AGRICULTURAL OCCUPATIONS EXPERIENCE. H. W. Gadda, Agricultural Education Department, Library 105, South Dakota State University, Brookings, South Dakota 57006, 1968. For use with high school students in developing on-farm and off-farm experience programs in agriculture. Price: Single copy free.

200. THE TEACHER - COORDINATOR'S MANUAL FOR DIRECTED WORK-EXPERIENCE PROGRAMS. Harold R. Cushman et al., Mailing Room, Building 7, Cornell University, Research Park, Ithaca, New York 14850, 1968. Bulletin 91. The manual is designed as a guide for teacher-coordinators concerned with initiating and conducting work experience programs. The material is organized in a precise, lucid manner which offers a maximum opportunity for application. Price: $.50.

201. VOCATIONAL AGRICULTURE COURSE OBJECTIVES AND OCCUPATIONAL WORK EXPERIENCE. James Albracht, 103 Holton Hall, Kansas State University, Manhatten, Kansas 66502, 1968. Suggestions for implementing work experience programs. Price: Free as long as supply lasts.

OFF-FARM AGRICULTURAL OCCUPATIONS AND BUSINESS

202. AGRICULTURAL SUPPLIES BUSINESS AND SERVICE, RELATED CLASS UNITS. Harry Plank, The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A series of 16 lesson units containing 451 pages for the Agricultural Supplies Business and Service related class. An instruction manual which provides answers to problems presented in the student's manual and test and answer supplements has been prepared. The materials are designed to provide the student with basic information needed in all the agricultural businesses. Provision is made for the student to work out practical exercises in the student units to provide him with experience in conjunction with his occupational experience program. Price: Student units $5.00 - Instructor's manual $3.00.

203. AGRICULTURAL SUPPLIES, SEEDS, FEEDS, AGRICULTURAL CHEMICALS, AND BUILDING MATERIALS. Harry Plank, The Ohio State University, Agricultural Education, Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A series of four student manuals designed for students employed in the areas indicated by the titles. Product information and practical exercises are provided. Price: Student manuals (4) $6.50 - Teacher's guide $2.50.

204. A PLAN TO REDUCE CERTAIN CREDIT AND COLLECTION PROBLEMS RELATED TO AGRICULTURAL SUPPLIES, SALES AND SERVICE BUSINESSES. Teacher Education Research Series, Vol. 9, No. 1. Paul M. Burns and G. Z. Stevens, Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. Describes procedures for extending, managing, and collecting credit by an agricultural business firm. Includes transparency diagrams for teaching the subject matter of the units. Designed for adult agricultural business classes. Price: $.50.

205. BASIC SOCIAL AND EDUCATIONAL COMPETENCIES ESSENTIAL FOR INITIAL AND CONTINUED EMPLOYMENT IN AGRICULTURAL OCCUPATIONS. Vo. Ag. Ed. No. 13. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, Louisiana 70803, 1966.

206. BUSINESS PRACTICES FOR AGRICULTURAL MACHINERY DEALERS. Harry Plank, The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. Business Practices for Agricultural Machinery Dealers is designed for students who are working in an agricultural machinery dealership. It is divided into three parts: Service, Parts, and Sales. The manuals are organized to provide information concerning business practices and to provide exercises to enable the student to experience how the various procedures are carried out. Price: Student manual $2.50 - Teacher's guide $1.00.

207. COURSE OF STUDY FOR FEEDLOT EMPLOYEE. No. 21. Foy Page and E. A. Howard, Jr., Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program in Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic tests, and test answer sheets. Price: $4.90.

208. COURSE OF STUDY FOR IRRIGATION EQUIPMENT SALES AND SERVICEMAN. No. 29. Sidney Ford and Melvyn McFarland, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program in Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic tests, and test answer sheets. Price: $4.70.

209. COURSE OF STUDY FOR SEED SALES AND SERVICEMAN. No. 24. Tom Abercrombie and Leroy Goodson, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Designed and developed for the student enrolled in the Cooperative Part-time Training Program in Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic tests, and test answer sheets. Price: $5.60.

210. COURSE OF STUDY FOR WOOL AND MOHAIR WAREHOUSE EMPLOYEE, No. 23. John Atkins and Bill Tomlinson, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843. Designed and developed for the student enrolled in the Cooperative Part-time Training Program in Vocational Agriculture. For individualized instruction. Color-coded format with assignment sheets, answer sheets, topic tests, and test answer sheets. Price: $3.65.

211. GROUP INSTRUCTION HANDBOOK. No. 25. Geral Kennedy and T. J. Honeycutt, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Instructional materials for teacher in Cooperative Part-time Training Program in Vocational Agriculture. To be used to instruct class as a group regardless of specific occupation of individual students. Price: $3.20.

212. OFFICE PROCEDURES USED IN THE AGRICULTURAL SERVICES. Harry Plank, The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A combination text and workbook designed for the student who is working as an office clerk in an agricultural business. Price: Student unit $1.00 - Test and answer supplement $1.00.

213. SELECTED JOB TITLE DESCRIPTIONS FOR NONFARM AGRICULTURAL JOBS IN LOUISIANA. Vo. Ag. Ed. No. 21. C. L. Mondart et al., Vocational Agricultural Education, Louisiana State University, Baton Rouge, Louisiana 70803, 1967.

214. SOUTH DAKOTA AGRICULTURAL OFF-FARM OCCUPATIONAL OPPORTUNITIES AND TRAINING NEEDS. H. W. Gadda and James C. Pollmann, Agricultural Education Department, South Dakota State University, Brookings, South Dakota 57006, 1968. This is an off-farm study in South Dakota aimed at identifying numbers and kinds of off-farm occupational opportunities in the next five years, as well as the kinds of competencies needed by prospective agricultural workers. Price: Free for single copy.

215. THE BASIC STEPS IN SELLING. Teacher Education Research Series, Vol. 8, No. 3. Clayton Riley, Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. A student handbook designed as a practical approach to retail selling of agricultural supplies and services. Involved are the steps in selling and self-evaluation, "let's see how we did it." The booklet revolves around a series of problems that simulate the problems of selling. A handbook for high school or adult classes. Price: $.50.

216. THE FOOD PROCESSING INDUSTRY. 160-1. Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A 38-frame color filmstrip that shows the growing importance of the food processing industry. Methods of canning, drying, and freezing are explained so that a better understanding of the industry is created for growers and workers alike. Price: $7.50.

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ORNAMENTAL HORTICULTURE

217. A TRAINING PROGRAM FOR VOCATIONAL AGRICULTURE IN GARDENING AND GROUNDSKEEPING. Vo. Ag. Ed. No. 22. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, Louisiana 70803, 1967.

218. FERTILIZING AND WATERING SHADE AND ORNAMENTAL TREES. Slidefilm 640. R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a color single-frame slidefilm of 48 frames. It gives basic information on fertilizing and watering shade and ornamental trees. Special emphasis is given to the establishment and maintenance of small trees. Price: $3.05 postpaid when payment accompanies order.

219. FOLIAGE PLANT IDENTIFICATION AND ARRANGEMENT IN PLANTERS - Resource Unit. Donald M. Jaworski and John F. Thompson, Department of Agriculture & Extension Education, University of Wisconsin, 208 Agricultural Hall, Madison, Wisconsin 53706, 1967. Price: Free - will send orders up to 10 copies.

220. GROUNDS AND BUILDING MAINTENANCE FOR SUPERVISORS, TECHNICIANS AND CUSTODIANS. Robert W. Walker and Kenneth L. Cherry, Hollidaysburg Area High School, Vocational Department, Hollidaysburg, Pennsylvania 16648, 1967. Bound 130-page copy includes: Philosophy, introduction to need for this instruction, pilot study proposal, project implementation, 2-year course of study, summary and conclusions. Price: $2.00 postpaid. Submit order to: Kenneth L. Cherry, Hollidaysburg Area High School.

221. GROWING PLANTS INDOORS. VAS 5007. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a 12-page subject-matter unit that discusses various environmental factors, such as light, temperature, gases, humidity, soil moisture, and nutrients as they affect growing plants indoors. Price: $.15 postpaid when payment accompanies order.

222. LANDSCAPE MAINTENANCE AND ESTABLISHMENT. A Student Handbook, Teacher Education Series 9:2s. Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. Covers opportunities; maintenance of turf, trees, shrubs, flowers; establishment through grading, construction and planting. Includes a table of selected plants. Text identical with Teacher Education Series 9:2t except inserts for teacher omitted. Price: $1.75.

223. LANDSCAPE MAINTENANCE AND ESTABLISHMENT. A Teacher's Handbook, Teacher Education Series 9:2t. Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. Covers opportunities; maintenance of turf, trees, shrubs, flowers; establishment through grading, construction and planting. Includes a table of selected plants. Text identical with Student Handbook with added green pages for the teacher at the end of each section. Price: $2.00.

224. LANDSCAPE PLANT IDENTIFICATION - Resource Unit. Donald M. Jaworski and John F. Thompson, Department of Agriculture & Extension Education, University of Wisconsin, 208 Agricultural Hall, Madison, Wisconsin 53706, 1967. Price: Free - will send orders up to 10 copies.

225. LANDSCAPING YOUR HOME. Agdex 271, 80 pp. Lowell Hedges, The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. A teacher's guide which provides organization and information for teaching landscaping of the home. Develops principles and how they may be applied in teaching. Price: $1.00.

226. LAWN CARE AND MANAGEMENT - A SOURCE UNIT FOR ADULT EDUCATION IN AGRICULTURAL OCCUPATIONS. Paul E. Hemp, Division of Agricultural Education, University of Illinois, 358 Education Building, Urbana, Illinois 61801, 1968. Suggestions for organizing and teaching a course on lawn care and management. Price: $.35 postpaid.

227. ORNAMENTAL HORTICULTURE - COURSE OUTLINE GUIDE. Division of Vocational Education, Agriculture Education, Olympia, Washington 98501. Designed as a guide for the development of a high school course of study. Price: Free - single copies to state supervisors and teacher educators.

228. ORNAMENTAL HORTICULTURE. Slide Sets. Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. Colored slides, each set accompanied by a script. Slide sets are offered at irregular intervals, twice a year. Price:

A. Designing with Flowers and Decorative Materials - 63 slides @ $11.00.
B. Exploring Turfgrass Occupations - 30 slides @ $5.00.
C. Commonly Used Trees, Shrubs, Groundcovers and Vines - 52 slides @ $9.00.
D. Turfgrass Identification - 30 slides @ $5.00.
E. Types of Turf - 17 slides @ $3.00.
F. Weed Identification - 37 slides @ $6.00.

229. ORNAMENTAL HORTICULTURE VISUALS. K. N. Schumacher, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. These are 8 1/2" x 11" instructional illustrations printed on heavy paper. They are for making transparencies for overhead projection, for use with an opaque projector, or for direct viewing. Each set is contained in a manila pocket folder with the title stamped on the flap. Available sets are: Plant Propagation - (Set of 39) Price: $1.10; Pruning and Training Plants - (Set of 32) Price: $.95. Prices quoted postpaid when payment accompanies order.

230. PRODUCING PLANTS BY ASEXUAL PROPAGATION. VAS 5006. R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a 20-page subject-matter unit that discusses the following questions: 1. How can I propagate new plants?. 2. What material should I use as a rooting media? 3. How should I place the cuttings in the media? 4. How do I graft plants? It also contains directions for 5 demonstrations that could be carried on by students. Price: $.25 postpaid when payment accompanies order.

231. PROPAGATION BY AIR LAYERING. Slidefilm 600. K. N. Schumacher and R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a color single-frame slidefilm of 29 frames. Air layering is a common method used in horticulture to produce new plants from a stem or branch which remains in position on the parent plant while rooting. It is used to increase choice shrubs, trees, and plants which are difficult to root by cuttings or other means. Price: $2.45 postpaid when payment accompanies order.

232. PRUNING ORNAMENTAL SHRUBS. 152-1. Lloyd Petroelje and E. Wesley Conner, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. A 52-frame color filmstrip, an illustrated script and a taped narration to guide students through the elements of pruning ornamental shrubs. Topics include the aim of pruning, growth principles, pruning tools, types of pruning, and decisions to be made before pruning. Price: $9.95.

233. RETAIL FLOWER SHOP OPERATION AND MANAGEMENT. Student Handbook, Teacher Education Series 9:1s. Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. Covers occupations, identification of plants, floral design, use of flowers, merchandising, and management. Text identical with Teacher Education Series 9:1t except inserts for teacher omitted. Price: $2.00.

234. RETAIL FLOWER SHOP OPERATION AND MANAGEMENT. A Teacher's Manual, Teacher Education Series 9:1t. Department of Agricultural Education, 101 Agricultural Education Building, The Pennsylvania State University, University Park, Pennsylvania 16802, 1968. Covers occupations, identification of plants, floral design, use of flowers, merchandising, and management. Text identical with Student Handbook with added green pages for the teacher at the end of each section. Price: $2.25.

235. VOCATIONAL HORTICULTURE SPECIALTY PROGRAMS FOR SECONDARY STUDENTS. Interim Report. Paul E. Hemp, Division of Agricultural Education, University of Illinois, 358 Education Building, Urbana, Illinois 61801, 1968. Report of pilot project in landscape and grounds maintenance of two Illinois schools. Price: Free - single copies available.

PLANT SCIENCE AND SOILS

236. APPROVED PRACTICES FOR CORN. R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a 4-page publication which lists specific practices followed by successful corn producers. It can be used by students carrying out their supervised experience programs involving corn production. Price: $.05 postpaid when payment accompanies order.

237. APPROVED PRACTICES FOR SOYBEANS. R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a 4-page publication which can be used by students in planning and carrying out their supervised experience programs involving soybean production. A few of the major headings are: Testing the Soil and Applying Fertilizer, Selecting Seed, Planting, Cultivating, Controlling Insects, and Harvesting and Storing. Price: $.05 postpaid when payment accompanies order.

238. APPROVED PRACTICES FOR WHEAT. R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a 4-page publication which lists specific practices followed by successful wheat producers. It can be used by students in planning and carrying out their supervised experience programs in wheat production. Price: $.05 postpaid when payment accompanies order.

239. A REFERENCE UNIT ON CORN. Carl E. Beeman, Agricultural Education Department, Subject Matter Service, P.O. Drawer AV, State College, Miss. 39762, 1966. Price: Single copy free only to state supervisors and head teacher educators.

240. A REFERENCE UNIT ON LIMING SOILS FOR GREATER PROFITS. Lloyd P. Jacks and Tom E. Ellis, Teaching Aids Library for Vocational Education in Agriculture, P.O. Drawer AV, State College, Miss. 39762, 1967. This is a compilation of research results and approved practices for using agricultural lime in Mississippi. Due to the limited number printed, it is available outside of Mississippi to state supervisors and head teacher educators only. Price: Free.

241. A REFERENCE UNIT ON SOYBEANS. Carl E. Beeman, Agricultural Education Department, Subject Matter Service, P.O. Drawer AV, State College, Miss. 39762, 1966. Price: Single copy free only to state supervisors and head teacher educators.

242. A SUGGESTED TRAINING GUIDE FOR SWEET POTATO PRODUCTION IN LOUISIANA. Vo. Ag. Ed. No. 23. Vocational Agricultural Education, 204 Field House, Louisiana State University, Baton Rouge, Louisiana 70803, 1967.

243. A SUGGESTED UNIT FOR SOIL AND WATER ENGINEERING - including surveying instruments. Nick Zahara, Agricultural Education Department, Morrill Hall, North Dakota State University, Fargo, North Dakota 58102, 1966. An eleven job lesson plan on the mechanics of soil and water erosion control. Price: Free to state supervisors and teacher educators.

244. A SYSTEMATIC APPROACH TO WEED CONTROL. Slidefilm 799. R. L. Courson and E. W. Vernon, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This is a color single-frame slidefilm of 55 frames. It discusses the factors you should consider when selecting a herbicide and gives the current recommendations. Price: $3.25 postpaid when payment accompanies order.

245. HUNGER SIGNS IN CROPS. R. L. Courson, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 12-page subject-matter unit discusses some of the common hunger signs in crops and contains 6 color plates showing deficiency symptoms. Directions for tissue testing and how hunger signs can guide you in planning your fertility program is also given. Price: $.15 postpaid when payment accompanies order.

246. PLANT NUTRIENT DEFICIENCIES. Author: Soils Science Department, Michigan State University. Available from: Don Cronkhite, Michigan Association of Teachers of Vocational Agriculture, High School, Stockbridge, Michigan 49285, 1968. Color slides of Michigan crops showing nutrient deficiencies. Price: $21.00.

247. PRINCIPLES OF PLANT GROWTH. Billy J. Vice, Instructional Materials Laboratory, Department of Vocational Education, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506, 1968. A teaching unit including suggested learnings to be developed, teaching learning activities, and references and instructional materials. Transparency masters for making transparencies for use with overhead projectors are available with the unit. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the state. Price: Free to teachers of agriculture in the State of Kentucky.

248. PROFITABLE CORN PRODUCTION - A SOURCE UNIT FOR PROGRAMS IN AGRICULTURAL OCCUPATIONS. Roger L. Courson and Paul E. Hemp, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1968. This 30-page publication gives suggestions and teaching ideas on corn production. It contains anticipated problems, suggested activities, and references that you may want to incorporate into your teaching plans. Price: $.50 postpaid when payment accompanies order.

249. PROPAGATION BY SEED. HS 9. Billy J. Vice, Instructional Materials Laboratory, Department of Vocational Education Building, University of Kentucky, Lexington, Kentucky 40506, 1968. A teaching unit including suggested learnings to be developed, teaching learning activities, and references and instructional materials. Transparency masters for making transparencies for use with overhead projectors are available with the unit. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the State of Kentucky. Price: Free to teachers of agriculture in the State of Kentucky.

250. SOIL AND SOIL MANAGEMENT. Don Priebe, Agricultural Education Department, Morrill Hall, North Dakota State University, Fargo, North Dakota 58012, 1965. A 14 job lesson plan on using our soil resources--tied rather tightly to the text "Profitable Soil Management" by Knuti, Korpi, and Hide, published by Prentice Hall. Available to state supervisors and teacher educators. Price: Free.

251. SOIL IN RELATION TO CROPS. HS 8. Billy J. Vice, Instructional Materials Laboratory, Department of Vocational Education, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506, 1968. A teaching unit including suggested learnings to be developed, teaching learning activities, and references and instructional materials. Transparency masters for making transparencies for use with overhead projectors are available with the unit. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the State of Kentucky. Price: Free to teachers of agriculture in the State of Kentucky.

252. TEACHING UNIT IN SOIL FORMATION AND CLASSIFICATION. Martin B. McMillion and Harold F. Arneman, Bulletin Room, AEAE, Institute of Agriculture, University of Minnesota, St. Paul, Minnesota 55101, 1967. This teaching unit was designed especially for Minnesota soils and soil types but some parts would be generally applicable. Price: $2.00.

253. TESTING SOILS FOR PHOSPHORUS. VAS 4003b. R. L. Courson and T. R. Peck, Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois 61801, 1969. This 16-page subject-matter unit gives the steps and equipment necessary for testing soils for phosphorus and illustrates how to record the results. Price: $.20 postpaid when payment accompanies order.

254. TIME TO RELIME. 58 color slides, tape, and script. Author: Harold E. Shoemaker, Department of Agronomy, The Ohio State University. Available from: Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. The slide series develops the reasons for reliming as follows: (1) erosion, (2) leaching, (3) crop removal, and (4) acid farming fertilizers. In conclusion the slide series considers how and why to relime. Price: $11.50.

255. TRANSPARENCY MASTERS FOR CROP AND WEED IDENTIFICATION. R & D project Washington State University, Agronomy Department, Washington State University, Division Agr. Ed. Olympia and RCU for Voc. Ed., Olympia, Washington. Available from: Agricultural Education Department, Washington State University, Pullman, Washington 99163, 1968. Transparency masters for the teaching of the identification of 177 crops and weeds. Cost prohibiys general distribution - distribution limited to 3 per state: 1 to head supervisor; 1 to head teacher educator; 1 to state RCU center.

256. USING CHEMICALS TO CONTROL WEEDS. Don Priebe, Agricultural Education Department, Morrill Hall, North Dakota State University, Fargo, North Dakota 58102, 1966. A nine job lesson plan on various aspects of chemical weed control. Available to state supervisors and teacher educators. Price: Free.

257. VEGETATIVE PROPAGATION. HS 78. Billy J. Vice, Instructional Materials Laboratory, Department of Vocational Education, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506, 1968. A teaching unit including suggested learnings to be developed, teaching learning activities, and references and instructional materials. Transparency masters for making transparencies for use with overhead projectors are available with the unit. Single copy available only to state supervisors and head teacher educators. Not available to teachers of vocational agriculture outside the State of Kentucky. Price: Free to teachers of agriculture in the State of Kentucky.

SUPERVISION AND TEACHER EDUCATION

258. A PATTERN FOR INDIVIDUALIZED INSTRUCTION IN VOCATIONAL AGRICULTURAL CLASSES. Raymond M. Clark and Walter McCarley, Bureau of Publications, College of Education, Michigan State University, East Lansing, Michigan 48823, 1968. Designed to suggest a system for individualized instruction in Vo-Ag classes. Suggests use of text, visuals, laboratory and occupational experiences for each lesson. Frees the teacher for special work with individual students. Manual is developed for grain grading at county elevators, and presented to illustrate the "pattern." Price: $1.50.

259. A PILOT PROGRAM IN NEW TEACHER PREPARATION AND IN-SERVICE UPGRADING OF TEACHERS AND SUPERVISORS. E. M. Juergenson, Department of Applied Behavioral Sciences, University of California, Davis, California 95616, 1968. This is a report on a project which involved an experiment in team teaching and the use of a specialist in agricultural education who visited various schools in northern California to initiate new programs in agriculture. The second phase of the publication is devoted to teacher aids in agriculture and a unit in work experience for new teachers. Price: Free - single copies available upon request.

260. DESCRIPTIVE INFORMATION RELATED TO THE ADMINISTRATION OF AGRICULTURAL EDUCATION AT ELEVEN LAND GRANT UNIVERSITIES IN THE UNITED STATES 1967-68. Gene M. Love, 122 Waters, University of Missouri, Columbia, Missouri 65201, 1968. A presentation of descriptive data about Agricultural Education pertaining to student enrollment, program status, budget, faculty salaries, travel allowances, program goals, special courses, degrees conferred, certification requirements, placement of graduates and equipment owned. Copies sent to head state supervisors and teacher trainers - supply exhausted.

261. FLOOR PLAN AND EQUIPMENT LAYOUT FOR ONE MAN, TWO MAN, AND THREE MAN VO-AG DEPARTMENT. Forrest Bear, Department of Agricultural Engineering, University of Minnesota, St. Paul, Minnesota 55101, 1968. Each plan has a classroom, office, laboratory, shop with storage facilities both inside and out. The units can stand alone or be attached to existing facilities. Price: $1.00 per plan.

262. GRADUATES OF AGRICULTURAL EDUCATION AT THE UNIVERSITY OF MISSOURI - A LOOK AT THEIR EMPLOYMENT STATUS FROM 1946-67. C. V. Roderick and Gene M. Love, 122 Waters, University of Missouri, Columbia, Missouri 65201, 1968. A study of the employment status of graduates of Agricultural Education at the University of Missouri from 1946-67. Copies sent to head state supervisors and teacher trainers. Supply exhausted.

263. GUIDELINES FOR MULTIPLE TEACHER DEPARTMENTS. Donald Elson et al., State Board for Vocational Education, 10th and Quincy, Topeka, Kansas, 1969. Guidelines for the operation of multi-teacher vocational agriculture departments are discussed. Price: Free as long as the supply lasts.

264. GUIDELINES FOR PREPARING EDUCATION SPECIFICATION FOR AGRICULTURAL EDUCATION. Bulletin 72 H-4. L. Warren Harrell et al., Agriculture and Extension Education Department, University of Florida, Gainesville, Florida 32601, 1968. Guidelines relating to education specifications prepared to assist educators, school planning personnel, architects, and other concerned personnel as they develop facilities for programs of agricultural education in senior high school and post-high school settings. Limited supply available to head teacher trainers and/or head state supervisors. Price: Not for sale.

265. HANDBOOK FOR NEW VOCATIONAL TEACHERS. 2nd Edition. Howard H. Christensen and Ivan E. Lee, Teacher Educator in Agriculture, University of Nevada, Reno, Nevada, 1968. Concise book for inexperienced teachers. Lists characteristics of successful teachers, planning and writing of lesson plans and tips on teaching and education. Price: $1.00 per copy.

266. MANUAL FOR STUDENT TEACHERS IN AGRICULTURAL EDUCATION. 122 Waters, University of Missouri, Columbia, Missouri 65201, 1968. This manual is to be used as a general guide by supervising teachers and student teachers in planning the program of student teaching in their schools. Price: $2.00 - supply limited.

267. SUPERVISION IN AGRICULTURE. James W. Becket, Department of Applied Behavioral Sciences, University of California, Davis, California 95616, 1968. A course outline in the supervision of agricultural labor. Price: Single copies available upon request.

TEACHING MATERIALS

268. DEVELOPMENT AND USE OF SUBJECT MATTER MATERIALS FOR VOCATIONAL EDUCATION IN AGRICULTURE. Lloyd P. Jacks, Teaching Aids Library for Vocational Education in Agriculture, P.O. Drawer AV, State College, Mississippi 39762, 1967. A report of a research project on how the Subject Matter Service of the Department of Agricultural Education at Mississippi State University could more effectively meet the needs of vocational agriculture teachers. Due to the limited number printed, it is available outside of Mississippi to state supervisors and head teacher educators only.

269. HAND-MADE LIFT TRANSPARENCIES. Rosemarie Granger, Agricultural Education, Taylor Hall, University of New Hampshire, Durham, New Hampshire 03824, 1968. Method for making a lift transparency using Contact or Kwik Kover shelf paper.

270. ORIGINALS FOR PREPARING OVERHEAD TRANSPARENCIES FOR VOCATIONAL AGRICULTURE. A. H. Halcomb, State Department of Education, Vocational Education Division, Vocational Agriculture Service, Montgomery, Alabama 36801, 1968. Originals on:

1. F. F. A.
2. Parliamentary Procedure
3. Agricultural Occupational Objectives
4. Career Guidance
5. Animal Science
6. Plant Food and Fertilizers
7. Farm Management and Economics
8. Business Organization, Merchandising, and Salesmanship.
9. Landscape Planning

Available only to Alabama teachers; and to head teacher trainers and state supervisors. Price: Free.

271. PRODUCTION AGRICULTURE - ANIMAL, SOIL, AND PLANT SCIENCE TRANSPARENCY MASTERS. Foy Page and Charles Urbanic, Agricultural Education Teaching Materials Center, Texas A & M University, College Station, Texas 77843, 1968. Series of 84 miscellaneous transparency masters for production agriculture, animal, soil, and plant science illustrations, with overlays. Price: $4.20.

MISCELLANEOUS

272. AGRICULTURAL ENTOMOLOGY. Don Priebe, Agricultural Education Department, Morrill Hall, North Dakota State University, Fargo, North Dakota 58102, 1967. An eight job lesson plan on recognizing and controlling insect pests. Price: Free to state supervisors and teacher educators.

273. APPLIED DESIGN. 158-1. Roger S. Bailey and Bernice B. Loughram, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. Two color filmstrips with illustrated scripts that explain principles of design and how to insure adherence to these principles. The first filmstrip, "Principles and Elements," creates an awareness of design and an understanding of the importance of good design. The second part, "Planning to Production," shows how to produce wood, metal and ceramic objects that show the influence of design principles. Price: $14.50.

274. DEGREE TO WHICH FAMILIES ARE SATISFIED WITH SELECTED ASPECTS OF FAMILY LIFE IN AN ECONOMICALLY DEPRESSED RURAL AREA. Gerald R. Fuller and Lloyd J. Phipps, Division of Agricultural Education, 357 Education Building, University of Illinois, Urbana, Illinois 61801, 1968. Price: $.50.

275. DEVELOPMENT OF HUMAN RESOURCES THROUGH A VOCATIONALLY ORIENTED EDUCATIONAL PROGRAM FOR DISADVANTAGED FAMILIES IN DEPRESSED RURAL AREAS. Interim Report 2, Social Class. Gerald R. Fuller and Lloyd J. Phipps, Division of Agricultural Education, 357 Education Building, University of Illinois, Urbana, Illinois 61801, 1968. Description of social and occupational class; selection of disadvantaged rural families in a depressed rural area. Price: $.50.

276. DEVELOPMENT OF HUMAN RESOURCES THROUGH A VOCATIONALLY ORIENTED EDUCATIONAL PROGRAM FOR DISADVANTAGED YOUTH IN DEPRESSED RURAL AREAS. Interim Report 1. Gerald R. Fuller and Lloyd J. Phipps, Division of Agricultural Education, 357 Education Building, University of Illinois, Urbana, Illinois 61801, 1968. Describes research project. Price: $.50.

277. FARM MACHINERY AND LIVESTOCK SAFETY. W. E. Stockey, The Ohio State University, Agricultural Education Curriculum Material Service, Room 201, 2120 Fyffe Road, Columbus, Ohio 43210, 1968. Lists concerns in machinery and livestock safety and gives suggestions for presenting accidents. Price: $.15.

278. GROUND SQUIRREL CONTROL. 154-1. James Klaustermeyer and Vern McGlothlen, Vocational Education Productions, California State Polytechnic College, San Luis Obispo, California 93401, 1968. Available as a two part slide set or as two filmstrips each with illustrated script. Part I shows in 37 frames the life history of the ground squirrel and how control measures are related to cycles of activity. Part II shows approved control methods in 52 frames. Safety precautions are stressed. Price: Filmstrip and script $13. 50; slide set and script $22. 50.

279. PARENT AND SON BANQUETS. Agricultural Education Department, North Carolina A & T State University, Greensboro, North Carolina 27411, 1968. It provides information for teachers and students in preparing for and conducting parent-and-son banquets. Price: $. 50 - limited quantity.

280. THE HOW OF SUCCESSFUL CITIZEN ADVISORY COMMITTEE OPERATION. Lloyd J. Phipps and Kenneth Knell, Division of Agricultural Education, 357 Education Building, University of Illinois, Urbana, Illinois 61801, 1968. Suggestions for effective use of citizen advisory committees. Price: $. 75.

281. TWO PARLIAMENTARY PROCEDURE SKITS, "LET'S JOIN HANDS," AND "A HAT IS AMENDED." D. L. Kindschy, Collegiate Chapter of FFA, Department of Agricultural Education, University of Idaho, Moscow, Idaho 83843, 1968. Suitable for parliamentary demonstrations at banquets, FFA programs, PTA meetings, etc. Price: $. 25 each.

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